# EFFECT OF MINDFULNESS THERAPY ON STRESS AND ANXIETY AMONG ANTENATAL MOTHERS AT SRI RAMAKRISHNA HOSPITAL, COIMBATORE

**REG. NO. 301220055**

A Dissertation Submitted to

**The Tamilnadu Dr. M. G. R. Medical University,**

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In Partial Fulfillment of the Requirement for the

Award of the Degree of

**MASTER OF SCIENCE IN NURSING**

**2014**

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I submit this work into the hands of **ALMIGHTY.**

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## Abstract

An interventional study was conducted to assess the effect of mindfulness therapy on stress and anxiety among antenatal mothers in Obstetrics and Gynaecological ward at Sri Ramakrishna Hospital, Coimbatore. Quasi experimental one group pre test post test design was adopted and convenient sample of 32 antenatal mothers were included for the study. Stress of the antenatal mothers was assessed using Perceived Stress Scale and Anxiety of the antenatal mothers was assessed using State Triat Anxiety Inventory before and after mindfulness therapy. Mindfulness therapy is the intervention composed of two activities done by the antenatal mothers namely Relaxation Technique followed by Guided imagery each for 10 mts of two sessions per day for 3 days. The result of the study reveals that application of mindfulness therapy is effective in reducing antenatal stress and anxiety.

# Effect of Mindfulness Therapy on Stress and Anxiety among Antenatal Mothers at Sri Ramakrishna Hospital, Coimbatore

Pregnancy is considered to be the most crucial period in the life of every woman. Pregnant women experience lot of changes within her, both physically and psychologically. An adaptation to these changes plays a very important role. Lack of adaptation leads to anxiety and stress. This stress and negative mood during pregnancy increases the risk of poor childbirth outcome and postnatal mood problems. Emotional consequences of stress can range from a mild sense of being overwhelmed to severe episodes of depression. They can eventually lead to pregnant women feeling withdrawn and being unable to function.

Stress can cause the body to produce certain hormones that can perhaps cause miscarriage or preterm labour which is a negative pregnancy outcome. Extreme stress during a woman's first trimester can have a negative impact on the baby's mental health. Negative life events during pregnancy are consistently associated with an elevated risk of low birth weight, preterm delivery and prematurity. Chemicals released as part of the mother's stress response may have an effect on the fetus' developing brain. It appears that these effects are strong in early pregnancy, when there is less protective barrier between the mother and her developing fetus. One of the lead researchers Dr Tracy Bale said, "Pregnant women can transmit the damaging effects of stress through the placenta and also said that baby boys are more sensitive to stress in womb where autism and schizophrenia are the more common psychiatric disorders that affect their childhood". Exposure of an antenatal mother to stressful

situations can influence the cognitive, behavioral and physical development of the child.

World Health Organization (WHO) estimates that depressive disorders will be the second leading cause of global disease burden by 2020. Analyses from the Avon Longitudinal Study of Parents and Children (ALSPAC) Cohort also found an evidence of the link between antenatal anxiety and neurological development. High maternal anxiety at 18 weeks' gestation predicted atypical laterality (i.e. mixed handedness) in the child, independently of maternal and paternal handedness and obstetric and other antenatal risks. Maternal anxiety had different effects on child handedness in the antenatal and postnatal periods. An association between antenatal anxiety and mixed handedness in the child was also found in a Danish cohort (C. Obel *et al*, personal communication, 2002). If antenatal anxiety is causally associated with mixed handedness, then it could have a role in other disorders associated with mixed handedness that have a neurodevelopment component, such as dyslexia and autism.

To have a complete development of the fetus, it’s necessary to maintain the health of the mother both physically and psychologically. Since pharmacological measurements are not encouraged during pregnancy because of it’s direct effect on the growing fetus leading to many complications, non pharmacological measurements are chosen looking upon its benefits and application methods. To make the adaptation easier, many non pharmacological therapies have been put to practice. One among the therapies is the Mindfulness Therapy. Mindfulness therapy is a modern reworking of ancient meditation traditions. It aims at helping an individual to learn to be aware of the thoughts, bodily sensations and to cope with day to day emotions and changes.

The technique of mindfulness therapy is based on buddhist meditation principle but was described by Teasade and Beck for the use in the treatment of negative mood disorder. The benefit of this therapy is to maintain the stability and flexibility of the mind. It also brings about self awareness. The aim is to allow one to have a different, easier relationship with the problematic thoughts, emotions and bodily sensations. The result of this is an increase in well being, more control over the mind and to spend less time dealing with difficulties and more resources for important activities.

## 1.1. NEED FOR THE STUDY

Antenatal mothers need psychological support more. Pregnancy itself can bring lot of stress where studies reveal that normal antenatal mothers experience stress and anxiety. New research shows that extreme stress during a woman's first trimester can have a negative impact on the baby's mental health. The main complication on fetus is restricted fetal growth and spontaneous preterm birth. Preterm birth is a leading cause for neonatal mortality and morbidity. Lou *et al* (1992) have shown that individuals who experienced severe stressful events during pregnancy showed a 50% increase in marked premature delivery (babies born at <34 weeks). Hedegaard *et al* (1993) conducted a study with 8719 women and reported that there is a significant association between self reported general distress at 30 weeks and an increased risk of preterm delivery, defined as <37 weeks (relative risk was found to be 1.22 for moderate and 1.75 for high distress.

Many recent human research findings have shown that acute prenatal stress affects children's cognition – or ability to think**,** behavior and delayed physical

development. A study conducted by the Douglas Institute monitored pregnant women and their children during and following a severe ice storm. Their findings showed that, Women who were exposed to the Ice Storm before conception or in their first trimester of pregnancy had significantly more obstetrical complications. Researchers involved in the Quebec Ice Storm project were able to correlate the time of stress with certain physical changes, namely the development of fingertip ridges. Because fingerprint development occurs during the second trimester of gestation when critical brain structures are also developing. Any abnormalities observed with the fingerprints, may have important implications for psychological development as well. Also the children exposed to high levels of objective prenatal stress, exhibited poorer cognitive and linguistic abilities relative to the children exposed to low levels. This trend was observed at 2, 5 ½ and 8 ½ years of age.

Sausenthaler S et al (2000) conducted a study to relate maternal factors during pregnancy in relation to childhood eczema. The objective of this study was to investigate the stress-related maternal factors during pregnancy and its association with childhood eczema during the first 6 years of life. Data from 3004 children from a prospective German birth cohort study were analyzed. The results of this study suggest that stress during pregnancy is associated with an increased risk of childhood eczema during the first 2 years of life.

Nauert, R. (2012) conducted a study to assess stress during pregnancy and harm on baby. Researcher discovered that mothers living within 18 miles of a hurricane's path during their third trimester were 60 percent more likely to have a newborn with abnormal conditions. Infants were at risk for needing a ventilator for more than 30 minutes or experiencing meconium aspiration, which occurs when a

newborn breathes in a mixture of meconium or early faeces and amniotic fluid around the time of delivery.

Mary E Coussons (2013) conducted a study to find the effect of prenatal stress on pregnancy and human development. The result states that prenatal stress can have significant effects on pregnancy, maternal health and human development across the lifespan. These effects may occur directly through the influence of prenatal stress-related physiological changes on the developing foetus, or indirectly through the effects of prenatal stress on maternal health and pregnancy outcome which, in turn, affect infant health and development. This is due to the activation of the maternal stress response and resulting changes in endocrine and inflammatory activity which play a role in the aetiology of these effects.

Natalie Grizenko et al (2008) conducted a study to examine whether there is an association between the severity of maternal stress during pregnancy and the severity of symptoms of attention-deficit hyperactivity disorder (ADHD). Using the Kinney Medical and Gynaecological Questionnaire, 203 children with ADHD, aged between 6 and 12 years, regarding maternal stress during pregnancy were assessed. Symptom severity was assessed using the Child Behaviour Checklist (CBCL) and Conners' Global Index for Parents (CGI-P) and Teachers (CGI-T). Result states that children with ADHD whose mothers were exposed to moderate and severe stress during pregnancy tend to develop more severe symptoms than children with ADHD whose mothers were not exposed to prenatal stress.

Robert M. Ward et al (2000) conducted a study to assess the severity of antianxiety drugs on growing foetus. Result states that there is a relation between

maternal drug and the adverse effects on foetus. Potential adverse effects for the foetus and the neonate include: structural malformations, acute neonatal effects including intoxication and neonatal abstinence syndromes, intrauterine foetal death, altered foetal growth and neurobehavioral teratogenicity. Neurobehavioral teratogenicity encompasses long-term central nervous system defects that result in delayed behavioural maturation, impaired problem solving, and impaired learning. Also the neonate experiences, neonatal drug withdrawal symptoms when drug exposure ceases at birth. Specific and supportive therapy may be required if the newborn displays signs of continued drug effects or withdrawal.

Melinda Smith, M.A., Lawrence Robinson, and Jeanne Segal (2013) conducted a study to assess the effects of antianxiety drugs on pregnant women. The study result found that these anxiety medications cross the placenta and lead to dependence in the baby. Following birth, the baby will then go through withdrawal symptoms such as muscle weakness, irritability, trembling, sleep and breathing problems. These anxiety drugs are excreted in breast milk, so they should be avoided while breastfeeding, also.

Katherine E. Williams (2013) a Clinical Associate Professor in the Department of Psychiatry and Behavioural Science has explained about antianxiety medications. It is said that woman exposed to benzodiazepines during the first trimester will give birth to a child with congenital anomaly. Benzodiazepines are also associated with prenatal syndrome, including feeding problems, hypothermia, and deficiency in baby's muscle tone.

MGH (Massachusetts General Hospital) centre for Women's Mental Health Reproductive Psychiatry Resource and Information Centre have given a report on Pharmacologic treatment during pregnancy and weighing it's risk on pregnancy. It states that pregnant women exposed to Benzodiazepine in first trimester have got an increased risk to give birth to babies having specific malformations like cleft lip or palate.

Daniel Hajdo (2005) conducted a study to assess the effect of anxiety medications on fetal kidney development and has found that benzodiazepines like valium and atavan drugs used to treat anxiety, lead to low birth weight which lead to developmental problems in fetal kidney. Hence, reducing the stress and anxiety of the antenatal mother through non pharmacological therapy is needed. This is possible through, Mindfulness therapy. Mindfulness therapy is a form of self awareness training adapted to be aware of what is happening in the present. It involves cultivating the ability to pay attention in the present moment and allow us to disengage from mental clutter and to have clear mind. The prevalence rate of antenatal psychological problems is estimated to be high worldwide.

On stress reduction, several studies have produced relevant findings. Asfandyar Khan Niazi, Shaharyar Khan Niazi (2011) conducted a study on Mindfulness-based stress reduction: a non-pharmacological approach for chronic illnesses. The aim of this systematic review is to determine the efficacy of MBSR in the treatment of chronic illness. The study was focused on patients with chronic diseases like cancer, hypertension, diabetes, HIV/AIDS, chronic pain and skin disorders. Result states that all the 18 studies included in this systematic review showed improvement in the condition after MBSR therapy.

Jain and Shapiro (2007) conducted a study to show the ability of mindfulness meditation on reduction in distractive and ruminative thoughts and behaviors. Arch (2006) found that emotion of a person is been regulated following focused breathing where the result states that the breathing group provided moderately positive responses to emotionally neutral visual slides, while "unfocused attention and worry" groups responded more negatively to neutral slides.

Cassandra Dunn et al (2012) conducted a study on effect of mindfulness based intervention on women's psychological distress and well-being in the perinatal period. This pilot study explored the effects of 8-week mindfulness-based cognitive therapy on pregnant women. Result states that participants reported a decline in measures of depression, stress and anxiety; with these improvements continuing into the postnatal period. Increase in mindfulness and self-compassion scores were also observed over time.

Linda Schaffer et al (2008) conducted a study on Guided Imagery - An Innovative Approach to Improve Maternal Sleep Quality. Mothers of preterm infants are at risk for poor sleep quality, which may adversely affect their health, maternal-infant attachment, and infant caretaking activities. This study examined the relationship of an 8-week relaxation guided imagery intervention on sleep quality and the association between sleep quality and maternal distress (perceived stress, depressive symptoms, and state anxiety) in 20 mothers of hospitalized preterm infants. Mothers received a CD (compact disc) with three 20-minutes recordings and were asked to listen at least 1 recording daily for 8 weeks. Results revealed that there was an improvement in sleep quality in mothers who underwent guided imagery intervention. Thus antenatal stress and anxiety should be controlled in order to protect

the growing fetus and also the mother by using the non pharmacological therapies which has got good benefit over antenatal mothers. This can be achieved by using mindfulness therapy on stress and anxiety for a pregnant mother. Hence the researcher aimed at finding out the effect of mindfulness therapy on antenatal stress and anxiety.

## 1.2. STATEMENT OF THE PROBLEM

EFFECT OF MINDFULNESS THERAPY ON STRESS AND ANXIETY AMONG ANTENATAL MOTHERS AT SRI RAMAKRISHNA HOSPITAL, COIMBATORE.

## 1.3. OBJECTIVES

1. Assessment of Stress and Anxiety level among Antenatal Mothers.
2. Assessment of Stress and Anxiety level among Antenatal Mothers after implementation of Mindfulness therapy.
3. Correlation of Stress with Anxiety level among Antenatal Mothers.
4. Correlation of Stress and Anxiety level among Antenatal mothers with selected demographic data.
5. Correlation of Stress and Anxiety level among Antenatal mothers with high risk status.

## 1.4. OPERATIONAL DEFINITION

### 1.4.1. Effect

It refers to an expected outcome in the level of stress and anxiety that's been gained by the antenatal mothers of Sri Ramakrishna Hospital after the application of mindfulness therapy.

### 1.4.2. Mindfulness therapy

Mindfulness therapy is an intervention composed of two activities done by the antenatal mothers namely Relaxation Technique followed by Guided imagery, each for 10mts of two sessions per day for 3 days.

### 1.4.3. Prenatal stress and anxiety

It is the quantitative level of stress and anxiety that the antenatal mother obtained by Perceived Stress Scale and State Trait Anxiety Inventory.

### 1.4.4. Antenatal mothers

Pregnant women admitted in Obstetrics and Gynaecological Ward at Sri Ramakrishna Hospital, Coimbatore during the period of data collection.irrespective of gravida, para and gestational age.

## 1.5. CONCEPTUAL FRAMEWORK

Conceptualization is a process of forming ideas which utilizes and forms a conceptual framework for the study. It is the abstract, logical structure which enables the researcher to link the findings to the nursing body of knowledge. A framework is the abstract of logical structure of meaning that guides the development of the study and the body of knowledge.

Conceptual framework of this study is adopted from Roy's adaptation Model formulated by Sister Calista Roy in 1964. This theory considers a person as adaptive system. The adaptation level of the person can be determined, where the level is exhibited by a person's behaviour that reflects the use of adaptive modes and coping

mechanism. The focus of this study is the adaptation of the individual to various stimuli, both from the environment and from within. Here the antenatal mother's adaptation level is based on the stimuli like focal stimuli, contextual stimuli and residual stimuli experienced and their behaviour. An individual behaviour is based on input, control and feedback mechanism.

### 1.5.1. INPUT

Inputs are the stimuli that provoke or stimulate the individual. The adaptation of the individual is determined by the different stimuli to which she is exposed. Focal, contextual and residual are the three different stimuli present. The individual is exposed to stimuli during the period of admission like focal stimuli, contextual stimuli and residual stimuli.

#### FOCAL STIMULI

Focal stimuli are those which immediately confront the hospitalized antenatal mothers. Here the stress and anxiety measured by Perceived Stress Scale and State Trait Anxiety Inventory is the focal stimuli.

#### CONTEXTUAL STIMULI

Contextual stimuli are all the other internal and external stimuli of the person that can be identified as having a positive or negative influence on the situation. The stress and anxiety of the antenatal mothers will be influenced by the contextual stimuli like age of the mother, education, occupation, family type, residence, occupation of spouse, family income, age at marriage, age at conception, obstetrical score, nature of pregnancy, gestational age, type of pregnancy, medical diagnosis and

past obstetrical history which includes nature of pregnancy, type of pregnancy, type of delivery, mode of delivery and age of the last child.

**RESIDUAL STIMULI**

Residual stimuli are those internal factors whose current effects are unclear. They are stress and anxiety related to hospitalization.

### 1.5.2. CONTROL PROCESS

The control process includes biological and psychological coping mechanisms. Regulator and cognator are the two sub-system coping mechanisms.

**REGULATOR**

Regulator is a subsystem of coping mechanism which responds automatically through neuro-chemical-endocrine processes. In stress and anxiety, activation of hypothalamic-pituitary-sinsurrene with the activation of ACTH and subsequent stimulation of the cortex. A substance called corticotropin releasing factor (CRF) coordinates and modulates adaptive response to stimuli.

**COGNATOR**

Cognator responds through the complex process of perception, information, processing, learning and judgment given by the care givers. Here the researcher explains the impact of mindfulness therapy on antenatal stress and anxiety and the mother will understand, appreciate and cooperate positively and manifest positive behaviour.

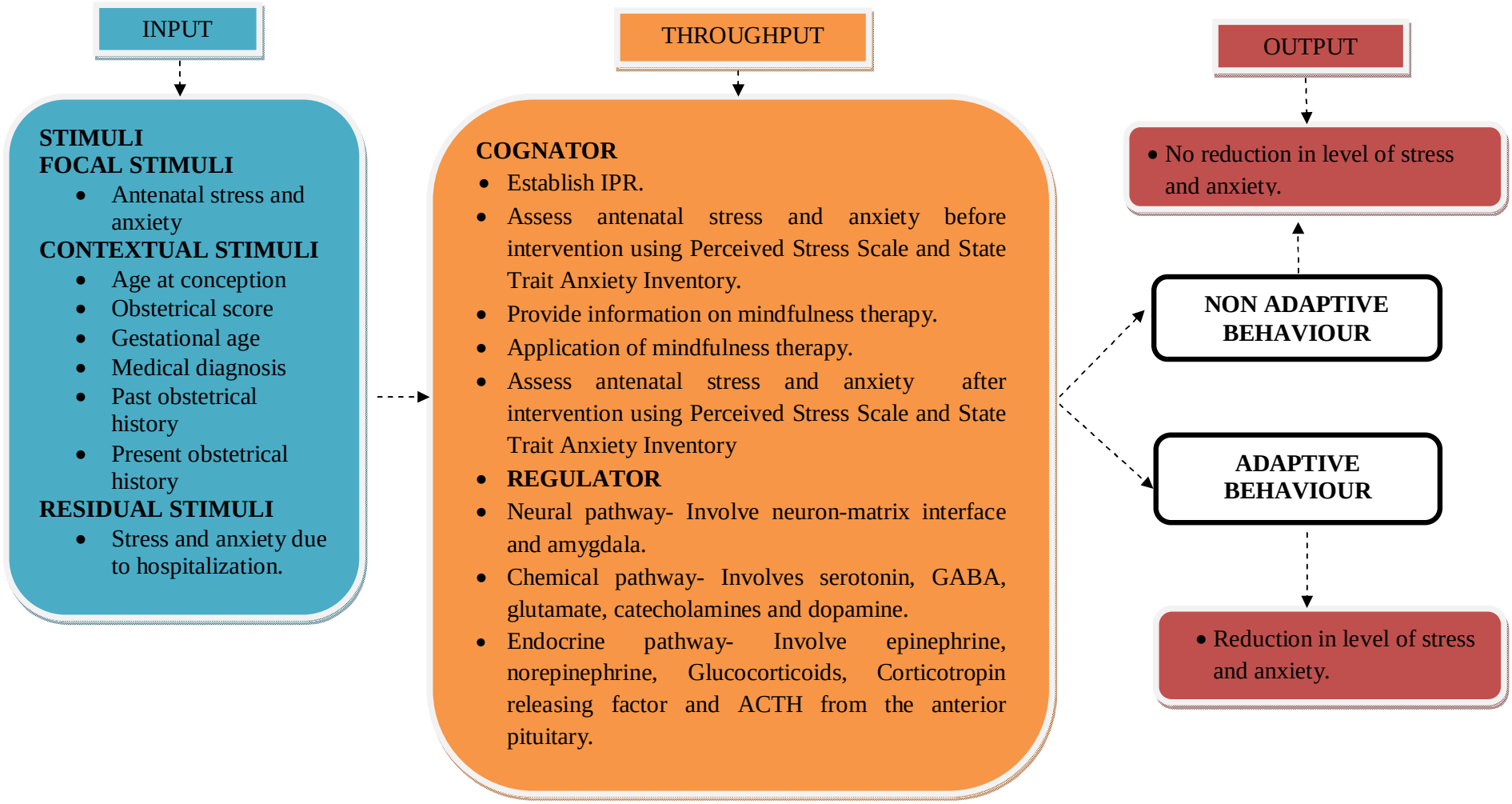
### 1.5.3. OUTPUT

Output is the increased or decreased perception to the stimuli and corresponding adaptive or maladaptive behavioural response. In this study the reduction in the score of stress and anxiety is the adaptive behaviour response.

**Fig 1.1**

**Effect of mindfulness therapy on stress and anxiety among antenatal mothers at Sri Ramakrishna Hospital, Coimbatore**

**CONCEPTUAL FRAMEWORK BASED ON MODIFIED ROY'S ADAPTATION BY SISTER CALISTER ROY (1964)**



## 1.6 PROJECTED OUTCOME

Mindfulness therapy will have a positive effect on stress and anxiety of antenatal mothers by reduction in the level of stress and anxiety.

# REVIEW OF LITERATURE

Literature is an essential component of the investigator for a greater understanding of the research problem and its major aspects. It provides an opportunity to evaluate many different approaches to the problem. First, it is necessary to obtain the most current facts relevant to the problem and secondly a thorough literature review will assist the researcher with the selection or development of the theoretical and methodological approaches to the problem.

The Literature gathered by the researcher was discussed under the following sections.

2.1. Literature related to stress and anxiety during antenatal period.

2.2. Literature related to effect of mindfulness therapy

2.3. Literature related to effect of mindfulness therapy on stress and anxiety.

## 2.1 Literature related to stress and anxiety during antenatal period

In the recent decade, there has been an increasing number of studies on antenatal mental health from developing countries. Failsal-Cury A and Rossi Menezes P (2006) conducted a Cross sectional study to find the prevalence of anxiety and depression during pregnancy in a private setting, where 432 antenatal women were selected. Standardized tool of Spielberger State Trait Anxiety Inventory (STAI), Beck Depression Inventory (BDI) tool was used. The findings resulted that prevalence of Antenatal Anxiety (AA) State and Trait was 59.5 and 45.3% respectively.

Hansen *et al* (2000) found that women who experienced severe life events in the first trimester of pregnancy had a 50% increase in the rate of congenital

abnormalities in cranial—neural crestderived organs (e.g. cleft palate). Even greater risk like unexpected death of the child was associated with the severe stress.

Eva M. Loomans et al (2012) conducted a study to find the relation between psychosocial stress during pregnancy and adverse birth outcomes. Latent class analysis was performed on data of 7740 pregnant women. Depressive symptoms, state anxiety, job strain, pregnancy-related anxiety and parenting stress were included as constructs in this study. Result states that 12% of the babies had lower birth weight and 15% had risk of preterm birth. Thus the study concludes that babies from pregnant women reporting high levels of anxiety and depressive symptoms had the higher risk for adverse birth outcomes.

Alder J, Fink N, Bitzer J, Hosli I, Holzgreve W (2007) conducted a study to find the impact of maternal anxiety and depression during preganacy on obstetric, fetal and neonatal outcome. This study concluded that elevated levels of depression and anxiety were found to be associated with obstetric outcome like obstetric complications, pregnancy symptoms and pre term labour.

Dole N et al (2003) conducted a study which examined psychological factors like life events, social support, depression, pregnancy related anxiety, perceived discrimination and neighbourhood safety in relation to preterm birth. Prospective cohort study of 1962 pregnant women was selected. The result stated that there was an increased risk of preterm birth among women with pregnancy related anxiety where risk ratio was 2:1 at 95% confidence interval.

Hobel, Calvin and Jennifer Culhane (2003) conducted a study on role of psychological and nutritional stress on poor pregnancy outcome. In this study, relation

between stressors like percieved stress, life event stress, pregnancy related anxiety, work stress, nutritional stress and outcome of pregnancy were assessed. Result of this study states that mothers having psychological, nutritional and environmental stressors are at a risk of preterm birth and poor fetal growth.

Wisborg K., Barklin A., Hedegaard M., and Henriksen T.B (2008) conducted a prospective study to find the association between psychological stress during pregnancy and still birth. A total of 19282 singelton pregnant women were selected. Psychological stress was assessed using 12 item General Health Questionnaire and found that women with high level stress had 80% increased risk of stillbirth which states that pregnancy stress was associated with an increased risk of still birth.

Anne Helbig, Anne Kassen, Ulrick Fredik Malt, Guttorm Haugen (2008) conducted a prospective observational study to assess whether antenatal maternal psychological distress affects placental circulation in third trimester. 104 non smoking pregnant women of 30 weeks gestational age were selected. Psychological distress was assessed using General Health Questionnaire and Impact of Event Scale. Uterine arteries, umbilical artery and umbilical vein blood flow were assessed using Doppler ultrasound. Result states that emotional distress was associated with reduced fetoplacental volume blood flow in the third trimester.

Monk C et al (2000) conducted a study to examine the effect of maternal stress responses and anxiety on fetal heart rate during pregnancy. 17 healthy third trimester pregnant women were instrumented for continuous electrocardiography, blood pressure (BP), respiration, and fetal heart rate (FHR). Subjects were administered state anxiety subscale of the State Trait Personality Inventory (STPI), then rested

quietly in a semirecumbent position for a 5-minutes baseline period, followed by either a 5-minutes arithmetic or Stroop color-word task that is a stressor activity. This stressor led to the increase in maternal systolic blood pressure (BP), respiratory rate in maternal and increase in fetal heart rate also. Thus the result of this study states that, women's acute emotional reactivity during pregnancy can influence fetal HR patterns and concludes that maternal psychological variables may shape the neurobehavioral development of the fetus.

## 2.2 Literature related to effect of mindfulness therapy

Jain and Shapiro (2007) conducted a study to show that mindfulness meditation reduces distractive and ruminative thoughts and behaviours, which may provide a unique mechanism by which mindfulness meditation reduces distress.

Arch (2006) conducted a comparative study on emotional regulation following focused breathing. A breathing group provided moderately positive responses to emotionally neutral visual slides, while unfocused attention and worry groups responded more negatively to neutral slides.

Brown (2003) found declines in mood disturbance and stress following mindfulness interventions. Jha (2010) found that a sufficient meditation training practice protects functional impairments associated with high-stress contexts. Garland (2009) found decline in stress after mindfulness interventions, which are potentially due to the positive re-appraisals of what were at first appraised as stressors.

Schoormans and Nyklicek (2011) compared Mindfulness meditation (MM) and transcendental meditation (TM) for two groups. Authors believed that MM

increased mindfulness and psychological well-being than TM. In fact, MM and TM practitioners had very similar mindfulness and well-being outcomes.

Anthony P. King et al (2013) conducted a study to find the impact of Mindfulness Based Cognitive Therapy (MBCT) for combat veterans with Posttraumatic Stress Disorder (PTSD). Patients seeking treatment for chronic post traumatic stress disorder (PTSD) at a VA outpatient clinic were selected and 8-week MBCT was administered. PTSD diagnostic scale and posttraumatic cognition inventory (PTCI) were administered to assess the changes before and after the intervention. At the end of $8^{th}$ week, it was found that veterans who underwent MBCT had reduction in PTSD symptom severity.

Cathy Wong (2005) conducted a study to assess the relation between guided imagery and pain reduction. 44 participants with chronic pain were selected, who listened to a 7-minute guided imagery tape at least three times a day for four consecutive days. This therapy helped patients to relax and feel comfort. At the end of the therapy, the participants were able to tolerate and control pain. Thus the result of this study states that there is a reduction in pain after guided imagery intervention.

Stefan G. Hofmann, Alice T. Sawyer, Ashley A. Witt, and Diana Oh ( 2010) conducted a study to assess the effect of mindfulness-based therapy on anxiety and depression. The main aim of this study is to conduct an effect size analysis of this intervention for anxiety and mood symptoms. 1,140 participants receiving mindfulness-based therapy for a range of conditions, including cancer, generalized anxiety disorder, depression, and other psychiatric and medical conditions were identified. Effect size estimate suggests that mindfulness-based therapy was effective

for improving anxiety. Thus the result of this study suggests that mindfulness-based therapy is an intervention for treating anxiety and mood problems in clinical populations.

Hoffman et al. (2010) conducted a meta-analysis of 39 studies to find the use of mindfulness-based stress reduction and mindfulness-based cognitive therapy. The findings of the study revealed that mindfulness-based therapy is useful in reducing affective and cognitive processes that underline multiple clinical issues.

Farb et al. (2010) conducted a study to find the effect of mindfulness based stress reduction on emotional regulation after watching sad films. Participants were randomly assigned to an eight week mindfulness based stress reduction. Researchers found that the participants who experienced mindfulness based stress reduction had significantly less anxiety, depression and somatic distress compared with the control group. These findings suggest that mindfulness meditation shifts people's ability to use emotion regulation strategies in a way that enable them to experience emotion selectively and also processed differently in the brain.

Jha et al (2010) conducted a study to assess the benefits of mindfulness meditation among military and civilians, where military group was divided into experimental and control group. Both military groups were in a highly stressful period before deployment. The researchers found that the non meditating military group had decreased working memory capacity over time, whereas working memory capacity among non meditating civilians was stable across time. Within the meditating military group, working memory capacity increased with meditation practice. Also, the

reserachers found that meditation practice was directly related to self-reported positive affect and inversely related to self-reported negative effect.

Rosenzweig S et al (2007) conducted a prospective observational study to assses the association between mindfulness based stress reduction and glycemic control in type 2 diabetes mellitus. The aim of the study was to measure Glycosylated hemoglobin A1c (HbA1c), blood pressure, body weight, and Symptom Checklist 90-Revised (anxiety, depression, somatization, and general psychological distress scores). Result states that patients who completed the intervention and after one month follow up, there was a reduction in HbA1c, arterial pressure and also there was a reduction in measures of depression, anxiety, and general psychological distress.

Linda Schaffer et al (2012) conducted a study to assess the effect of guided imagery on maternal sleep quality. This study selected 20 hospitalized mothers of preterm infants where they are at risk of poor sleep quality, which adversely affect their health, maternal-infant attachment, and infant care taking activities. In this study, relationship of an 8-week relaxation guided imagery intervention on sleep quality and the association between sleep quality and maternal distress was assessed. Mothers received a CD (compact disc) with three 20-minutes recordings and were asked to listen to at least 1 recording daily for 8 weeks. Result states that there was an improvement in sleep quality among mothers who underwent guided imagery.

## 2.3 Literature related to effect of mindfulness therapy on stress and anxiety on antenatal mothers

Renata P Gorayeb, Ricardo Gorayeb, Aderson T. Berezowski, Gerold Duarte (2013) conducted a study on Effectiveness of psychological intervention for treating

symptoms of anxiety and depression among pregnant women diagnosed with fetal malformation. The result states that there is reduction in anxiety and depression scores by relieving the symptoms of anxiety and depression after psychological intervention in the normal pregnancy and fetal malformation groups.

Jallo N, Cozens R, Smith MW**,** Simpson RI (2013) conducted a study to examine the imapct of guided imagery on maternal stress among hospitalized pregnant women. Mean stress and systolic blood pressure measurements were lower after the intervention. The number of days of intervention for each individual varied from 2 to 10 days. The result states that there is a reduction in the level of stress among hospitalized pregnant mother with variations in the days of intervention.

Vieten C, Astin J (2007) conducted a study to assess the effects of a mindfulness based intervention during pregnancy on prenatal stress and mood. An eight week mindfulness based intervention was developed. Result states that mother who received intevention showed reduced anxiety and negative affect in the third trimester in comparison to those who did not receive the intervention.

Bishop et al (2004) conducted a two component model of mindfulness. The first component of mindfulness involves the self-regulation of attention . The second component involves adopting a particular orientation toward one's experiences in the present moment. The result states that practising mindfuless therapy helps a people to recognise their habitual patterns of mind which developes an awareness over time.

Jallo N et al ( 2009) conducted a study on Biobehavioral effects of relaxation guided imagery on maternal stress. A prospective longitudinal study was conducted over 12 weeks on African American women beginning in the second trimester. The

tool used for this study was perceived stress scale, state trait anxiety inventory and numerical rating stress scale. Findings revealed that, there was a reduction in anxiety and stress levels.

Fisher C, Hauck Y, Bayes S, Byrne J. ( 2008) conducted a study to assess the effect of Mindfulness-based Child Birth Education (MBCE) which combines skill-based antenatal education and Mindfulness Based Stress Reduction in improving the psychological status of antenatal mother by making them an active participant in birthing process. Pregnant women between 18 and 28 weeks gestation, over 18 years of age, nulliparous with singleton pregnancies and not taking medication for a diagnosed mental illness or taking illicit drugs were eligible to undertake the MBCE program. Result of this study states that MBCE has the potential to empower women to become active participants in the birthing process which is a positive outcome.

Cassandra Dunn, Emma Hanieh, Rachel Roberts, Rosalind Powrie (2011) conducted a study to find the effect of mindfulness based intervention on women's psychological distress and well-being in the perinatal period. This pilot study explored the effects of an 8-week mindfulness-based cognitive therapy on pregnant women. Participants reported a decline in measures of depression, stress and anxiety. Increase in mindfulness and self compassion scores were also observed over time. These changes were noted in postnatal period also.

Karpinen J, Schneider M and Reisdorf L (2010) conducted a study to assess the effect of Guided imagery on reducing stress and improving occuptional well being in pregnant adolescents. Students from SAPAR ( an academic resource for school aged girls) in all stages of pregnancy, aged 14 – 21 years were selected. A four

session intervention was administered. The results states that there was a reduction in the stress level and improvement in occupational well being among teen age pregnant girls

# METHODOLOGY

The present study was designed to evaluate the effect of mindfulness therapy on stress and anxiety among antenatal mothers. The present chapter enumerates the overall plan of research process and deals with the description of the research approach, design, setting, population, criteria for sample selection, sampling technique, development and description of tools, procedure for data collection and plan for data analysis.

## 3.1. RESEARCH APPROACH

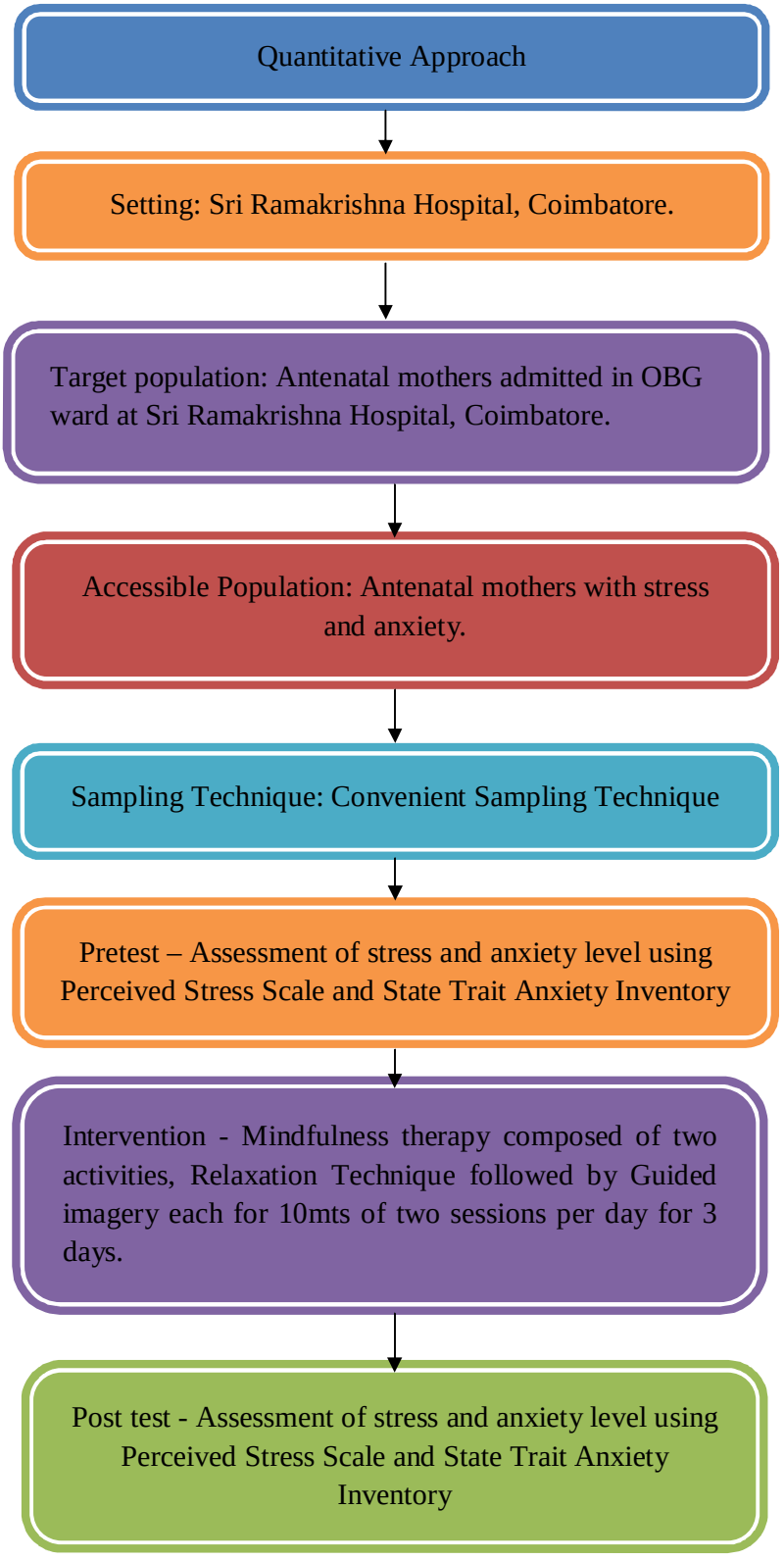
The researcher has adopted quantitative experimental research approach in this study to analyse the effect of mindfulness therapy on stress and anxiety among antenatal mothers at Sri Ramakrishna Hospital, Coimbatore.

## 3.2. RESEARCH DESIGN

Quasi experimental one group pre test and post test design was adopted for the present study to evaluate the effect of mindfulness therapy on stress and anxiety among antenatal mothers at Sri Ramakrishna Hospital, Coimbatore.

**FIG. 3.1.**

**SCHEMATIC REPRESENTATION OF RESEARCH DESIGN PROCESS**



### 3.3. SETTING

The study was conducted in Obstetrics and Gynaecological ward at Sri Ramakrishna Hospital. The hospital has 740 beds. Obstetrics and Gynaecological ward consists of 40 beds where antenatal unit has 20 beds. Total antenatal mothers admitted in this ward from June 2012 to May 2013 were 369.

### 3.4. POPULATION

The population of the present study was antenatal mothers admitted in Obstetrics and Gynaecological ward at Sri Ramakrishna Hospital for a period of three days at the time of data collection from 22.06.2013 to 21.07.2013.

### 3.5. SAMPLING

Total number of antenatal mothers admitted in Obstetrics and Gynacoelogical ward from 22.06.13 to 21.07.13 were 112. Using convenient sampling technique 32 antenatal mothers who had mild, moderate and severe stress and anxiety were selected for the intervention.

### 3.6. VARIABLES OF THE STUDY

The independent variable of the study was mindfulness therapy and the dependent variables were stress and anxiety of the antenatal mothers.

### 3.7. MATERIALS

The tool consists of six sections.

Section 1: Demographic characteristics

Section 2: Obstetrical Details

Section 3: Coopland's High Risk Evaluation Score

Section 4: Stress Related Symptoms Checklist

Section 5: Perceived Stress Scale

Section 6: State/ Trait Anxiety Inventory Questionnaire

*3.8.1. Demographic characteristics*: This includes age, education, occupation, family type, residence, occupation of spouse and family income.

*3.8.2 Obstetrical Details*: It is divided into present and past obstetrical history. Present obstetrical details include age at marriage, age at conception, obstetrical score, nature of pregnancy, gestational age in weeks, type of pregnancy and medical diagnosis (if it is diagnosed). Past obstetrical details includes nature of pregnancy, type of pregnancy, type of delivery, mode of delivery, age of the last child and medical diagnosis (if it was diagnosed).

*3.8.3 Coopland's high Risk Evaluation Score:* It includes details regarding reproductive history, medical or surgical associated conditions and present pregnancy. This high risk evaluation is been used to identify the relation between the stress and anxiety with the high risk status.

*Score interpretation*

| | | |
|---|---|---|
| Total score | - | 52 |
| Low risk | - | 0-2 |
| High risk | - | 3-6 |
| Extreme risk | - | >7 |

*3.8.4 Stress Related Symptoms Semi structured Checklist:* It includes 24 responses which consists of 12 physical symptoms and 12 psychological symptoms related to stress. It consists of 4 options namely, never present, less frequently present, frequently present and always present. The respondents are asked to select the options which make them to feel to suit them for the present situation. This checklist identifies the symptoms that the antenatal mother experiences when she is stressed and anxious.

*3.8.5 Perceived Stress Scale:* Perceived Stress Scale was a revised tool by Fliege H (2004). It includes 20 responses categorised under 4 components namely worries, tension, joy and demands. One to four points are allocated for the answers that the participant chooses. The total score is calculated by adding score of each item.

*Scoring*: The scale is standardized which consists of 4 components and 5 questions in each with a total of 20 questions. One point to four points are allocated for the answers that the participant choose. The total score is calculated by adding score of each item.

*Score interpretation*

| | | |
|---|---|---|
| Total score | - | 80 |
| Score of 20 – 40 | - | Mild stress |
| Score of 41 – 60 | - | Moderate stress |
| Score of 61 – 80 | - | Severe stress |

*3.8.6 State Trait Anxiety Inventory:* State Trait Anxiety Inventory was developed by Charles D Spielberg in collaboration with RL Gorsuch, R Lushene, PR Vagg and Ga Jacobs. This standardized tool consists of 2 parts namely State Anxiety Inventory and Trait Anxiety Inventory, 20 questions in each with a total of 40 questions. One point to four points are allocated for the answers that the participant chooses. The total score is calculated by adding score of each item.

*Score interpretation*

| | | |
|---|---|---|
| Total score | - | 100 |
| Score of < $25^{th}$ percentile | - | Mild anxiety |
| Score of $25^{th}$ – $75^{th}$ percentile | - | Moderate anxiety |
| Score of > $75^{th}$ percentile | - | Severe anxiety |

*3.8.3 Mindfulness therapy*: Mindfulness therapy is the intervention composed of two activities done by the antenatal mothers namely Relaxation Technique followed by Guided imagery each for 10 mts of two sessions per day for 3 days.

**PROCEDURE**

**THE STEPS CARRIED OUT IN MINDFULNESS THERPAY ARE**

**DAY 1**

Step 1: Introduction of the researcher with the antenatal mother.

Step 2: Explanation of the procedure by the researcher to the antenatal mother

Step 3: Collection of the demographic characteristics, obstetrics details, high risk status from the antenatal mothers.

Step 4: Assessment of stress symptoms of the antenatal mother by using stress related symptoms checklist.

Step 5: Assessment of stress of the antenatal mother by using Perceived Stress Scale.

Step 6: Assessment of anxiety of the antenatal mother by using State Trait Anxiety Inventory on day one of research.

Step 7: After collecting the data mindfulness therapy - Relaxation Technique and Guided Imagery is given, where the antenatal mother is

- Advised to lie down inside lying position.
- Asked to concentrate only on the instructions that the researcher gives and not to divert her concentration.
- Asked to close the eyes until the researcher asks to open, not to move her body and need to follow the instructions of the researcher.
- Asked to breathe deeply in and let it very slow. Concentration must be kept only on breathing and repeat it for 5 times.

- The researcher instructs the antenatal mother to feel light from her forehead to legs one by one without any thoughts or pain and also instructs to feel the muscles of each part relaxed and comfort.
- This relaxation technique is carried out for first 10 minutes.
- Next the researcher continues the therapy with guided imagery.
- The antenatal mother is instructed to concentrate on her breathing and is asked to imagine the scene that the researcher instructs.
- The guided imagery therapy is carried for next 10 minutes after relaxation technique.
- Now the mother is asked to open her eyes and is asked how she felt for the past 20 minutes.
- Instructions used in guided imagery are different in each session which comprises of instructions related to nature and babies.
- Relaxation technique and Guided Imagery are administered twice a day once in morning and evening.

**DAY : 2**

- Relaxation technique and Guided Imagery are administered on the second day once in morning and evening.

**DAY : 3**

- Relaxation technique and Guided Imagery are administered on the third day once in morning and evening.

- At the end of 6th session, post test is been done by using Perceived Stress Scale to assess the stress of antenatal mother and State Trait Anxiety Inventory to assess anxiety of the antenatal mother.

## 3.8. METHOD OF DATA COLLECTION

Data from the antenatal mothers were collected using the material which has six sections. The first three sections were collected by the researcher itself. The remaining sections were translated to Tamil and given to the antenatal mothers, were they are instructed to tick the responses that they feel correct.

## 3.9. HYPOTHESES

$H_1$: There is a significant difference in the level of stress among antenatal mothers before and after implementing mindfulness therapy.

$H_{2:}$ There is a significant difference in the level of anxiety among antenatal mothers before and after implementing mindfulness therapy.

$H_{3:}$ There is a significant correlation in the level of stress with anxiety among antenatal mothers.

$H_{4:}$ There is a significant relation in the level of stress and anxiety among antenatal mothers and selected demographic variables.

$H_5$: There is a significant relation in the level of stress and anxiety among antenatal mothers and high risk status.

### 3.10. PILOT STUDY

The pilot study was conducted to check the practicability, validity and reliability of the tool. The study was conducted in Obstetrics and Gynaecology ward at Sri Ramakrishna hospital, Coimbatore. The duration of data collection was about 10 days. 8 antenatal mothers were purposively selected for the study. Perceived Stress Scale and State Trait Anxiety Inventory Scale were administered to assess the stress and anxiety before the mindfulness therapy. The intervention was administered for 20 minutes twice daily for each person for 3 days. On the third day, stress and anxiety were reassessed with same scales mentioned above. The ‘t’ value of the antenatal stress before and after mindfulness therapy was 6.65 where the value is greater than the table value which shows that there is significant difference in the level of antenatal stress before and after the mindfulness therapy. The ‘t’ value of the antenatal anxiety before and after mindfulness therapy was 11.13 where the value is greater than the table value which shows that there is significant difference in the level of antenatal anxiety before and after the mindfulness therapy.

The change made after pilot study was Coopland’s high risk evaluation which was added to find the relation between stress and anxiety and high risk status of antenatal mother.

### 3.11. MAIN STUDY

The main study was conducted for a period of 30 days. During the period of data collection, 42 antenatal mothers were selected where, 10 mothers got discharged within 3 days of admission who were excluded from the study and 32 samples were drawn purposively. The researcher developed rapport with the antenatal mother and

explained the benefits of the intervention and cooperation was gained. On the day when the researcher meets the mother first, assessment of stress and anxiety were done using Perceived Stress Scale and State Trait Anxiety Inventory Scale. Mindfulness therapy was administered for 20 minutes twice a day for 3 days. On the third day, the level of stress and anxiety were reassessed with same scales.

# DATA ANALYSIS & INTERPRETATION

The effect of mindfulness therapy among antenatal mothers with stress and anxiety was assessed and analyzed using the collected data. The study was conducted among 32 antenatal mothers who were admitted at Sri Ramakrishna Hospital, Coimbatore at the time of data collection. The stress and anxiety was assessed and mindfulness therapy was administered to the antenatal mothers with stress and anxiety. The data collected was grouped and analyzed using descriptive and inferential statistics.

## SECTION I

### 4.1.1. Presentation of Demographic Variables

The following demographic characteristics of the antenatal mothers in terms of age, education, occupation, family type, residence, occupation of spouse and family income were collected and presented in the form of tables to analyze the effect of mindfulness therapy on stress and anxiety among antenatal mothers.

**Table 4.1**

**Distribution on Demographic Variables of Antenatal Mothers**

**(N=32)**

| Demographic data | Number of Antenatal Mothers | Percentage (%) |
|---|---|---|
| **Age in years** | | |
| 20-29 | 25 | 78 |
| 30-39 | 7 | 22 |
| **Education** | | |
| Primary | 5 | 16 |
| Secondary | 8 | 25 |
| Under graduate | 12 | 37 |
| Post graduate | 7 | 22 |
| **Occupation** | | |
| Employed | 1 | 3 |
| Unemployed | 31 | 97 |
| **Family type** | | |
| Joint | 12 | 37 |
| Nuclear | 20 | 63 |
| **Residence** | | |
| Rural | 4 | 12 |
| Urban | 28 | 88 |
| **Occupation of spouse** | | |
| Employed | 32 | 100 |
| **Family income (in Rs)** | | |
| <20,000 | 7 | 22 |
| 21,000-40,000 | 13 | 41 |
| >40,000 | 12 | 37 |

Table 4.1 denotes the percentage distribution of demographic characteristics of the antenatal mothers. From the total sample size of 32, majority of the antenatal mothers (78%) were between the age group of 20-29 years and only 22% of the antenatal mothers were between the age group of 30-39 years. In regard to educational status, 16% of the antenatal mothers completed primary education, 25% of the antenatal mothers completed secondary education, 37% of the antenatal mothers were under graduates and 22% of the antenatal mothers were post graduates. When considering the employment status, 3% of the antenatal mothers were employed and 97% of the antenatal mothers were unemployed. With regard to family status, 37% of the antenatal mothers live in joint family and 63% of the antenatal mothers live as nuclear family. With regard to the residence of antenatal mothers, 12% of the antenatal mothers live in rural area and 88% of the antenatal mothers live in urban area. Distribution of spouse employment status had revealed that all were employed. According to the family income distribution 22% had family income less than Rs 20,000, 41% had family income between Rs 21,000 - 40,000 and 37% had family income of more than Rs 40,000.

### 4.1.2. Presentation of Obstetrical Details

The following obstetrical details of the antenatal mothers in terms age at marriage, age at conception, obstetrical score, nature of pregnancy, gestational age in weeks and type of pregnancy were collected and presented in the form of tables to analyze the effect of mindfulness therapy on stress and anxiety among antenatal mothers.

**Table 4.2**
**Distribution on Present Obstetrical Details of Antenatal Mothers**

**(N=32)**

| Obstetrical details | Number of Antenatal mothers | Percentage (%) |
|---|---|---|
| **Age at marriage (in years)** | | |
| 18-23 | 19 | 59 |
| 24-29 | 13 | 41 |
| **Age at conception ( in years)** | | |
| 20-25 | 12 | 38 |
| 26-31 | 15 | 47 |
| 32-37 | 5 | 16 |
| **Gravid** | | |
| Primi | 12 | 38 |
| Multi | 20 | 62 |
| **Nature of pregnancy** | | |
| Planned | 32 | 100 |
| **Gestational age** | | |
| I trimester | 3 | 9 |
| II trimester | 11 | 35 |
| III trimester | 18 | 56 |
| **Type of pregnancy** | | |
| Complicated | 28 | 88 |
| Uncomplicated | 4 | 12 |

Table 4.2 depicts the present obstetrical history of the antenatal mothers. Majority (59%) of the antenatal mothers were married at the age between 18-23 years and 41% of the antenatal mothers were married at the age between 24-29 years. 38% of the antenatal mothers got conceived the age between 20-25 years, 47% of the antenatal mothers got conceived the age between 26-31 years and 16% of the antenatal mothers got conceived the age between 32-37 years. 38% of the antenatal mothers were in primi gravida status and 62% of the antenatal mothers were in multi gravida status. All the antenatal mothers had planned nature of pregnancy. Out of 32 antenatal mothers, 9% of the antenatal mothers were in the first trimester of the gestational age, 35% of the antenatal mothers were in the second trimester of the gestational age and 56% of the antenatal mothers were in the third trimester. 88% of the antenatal mothers had complicated type of pregnancy and 12% of the antenatal mothers had uncomplicated type of pregnancy.

**Table 4.3**

**Distribution on Past Obstetrical Details of Antenatal Mothers**

**(N=20)**

| Obstetrical details | Number of Antenatal mothers | Percentage (%) |
|---|---|---|
| **Para** | | |
| Primi | 9* | 45 |
| Multi | 4 | 20 |
| **Live birth** | | |
| Yes | 13 | 65 |
| No | 7 | 35 |
| **Nature of Pregnancy** | | |
| Planned | 20 | 100 |
| **Type of Pregnancy** | | |
| Complicated | 10 | 50 |
| Uncomplicated | 10 | 50 |
| **Type of delivery** | | |
| Abortion | 7 | 35 |
| Term | 13 | 65 |
| **Mode of delivery** | | |
| Vaginal | 7* | 35 |
| Cesarean section | 6 | 30 |

7* - abortion

Table 4.3 presents the distribution of past obstetrical history of the primi and multi parous antenatal mothers. 80% of the antenatal mothers were primi parous and 13% of the antenatal mothers were multi parous. 65% of the antenatal mothers had the history of live child birth and 35% of the antenatal mothers had history of abortion. All the antenatal mothers in this category (100%) had planned pregnancy. 50% of the antenatal mothers had complicated pregnancy and 50% of the antenatal mothers had uncomplicated pregnancy. 65% of the antenatal mothers delivered at term. 35% of the antenatal mothers delivered vaginally and 30% of the antenatal mothers delivered through caesarean section.

### 4.1.3. Presentation of Coopland's High Risk Evaluation

The high risk status of the antenatal mothers was collected using Coopland's high risk evaluation form and presented in the form of table.

**Table 4.4**

**Distribution on Coopland's High Risk Evaluation of Antenatal Mothers**

**(N=32)**

| Level of high risk evaluation | Antenatal Mother | |
|---|---|---|
| | No. of Antenatal Mothers | Percentage (%) |
| Low risk (0-2) | 22 | 69 |
| High risk (3-6) | 10 | 31 |
| Severe risk (>7) | - | - |

Table 4.4 presents high risk evaluation of the antenatal mothers in terms of percentage. 69% antenatal mothers scored 0-2 and were designated low risk while 31% of the antenatal mothers scored 3-6 and were designated high risk.

### 4.1.4. Presentation of Stress Related Symptoms Checklist

The stress related symptoms of the antenatal mothers was collected using researcher developed stress related symptoms checklist and presented in the form of table.

**Table 4.5**

**Distribution on Stress Related Symptoms Checklist of Antenatal Mothers**

**(N=32)**

| Stress Related Symptoms | Antenatal Mothers | |
|---|---|---|
| | No. of Antenatal Mothers | Percentage (%) |
| Irritability | 18 | 56 |
| Difficulty in making decisions | 21 | 67 |
| Mood swings | 21 | 67 |
| Fatigue / tiredness | 18 | 56 |

Table 4.5 discusses the percentage of selected stress related symptoms, which the antenatal mothers experienced less frequently at the time of hospitalization. 56% of the antenatal mothers had irritability and fatigue/ tiredness respectively, while 67% of the antenatal mothers had mood swings and difficulty in making decision respectively when they were stressed and anxious.

## SECTION II

## 4.2. ASSESSMENT ON STRESS AND ANXIETY OF ANTENATAL MOTHERS BEFORE AND AFTER MINDFULNESS THERAPY

### 4.2.1. Assessment of Stress Level among Antenatal Mothers

Stress level of the antenatal mothers was assessed with standardized tool of Perceived Stress Scale with categorization of mild, moderate and severe stress.

**Table 4.6**

**Distribution on the Stress Level Before and After Mindfulness Therapy among Antenatal Mothers**

**(N=32)**

| Level of Stress | Before Intervention | | After Intervention | |
|---|---|---|---|---|
| | No. of Antenatal mothers | Percentage (%) | No. of Antenatal mothers | Percentage (%) |
| Mild Stress (20-40) | 18 | 56 | 31 | 97 |
| Moderate Stress (41-60) | 14 | 44 | 1 | 3 |
| Severe Stress (61-80) | - | - | - | - |

The above table represents the distribution of antenatal mothers by the level of stress before and after mindfulness therapy. Before intervention it was found that 56% of the antenatal mothers had mild stress and 44% had moderate stress. After intervention 97% of antenatal mothers had mild stress and 3% remained in moderate stress but there was an improvement in their exact scores. Thus mindfulness therapy was effective in reducing stress of antenatal mothers.

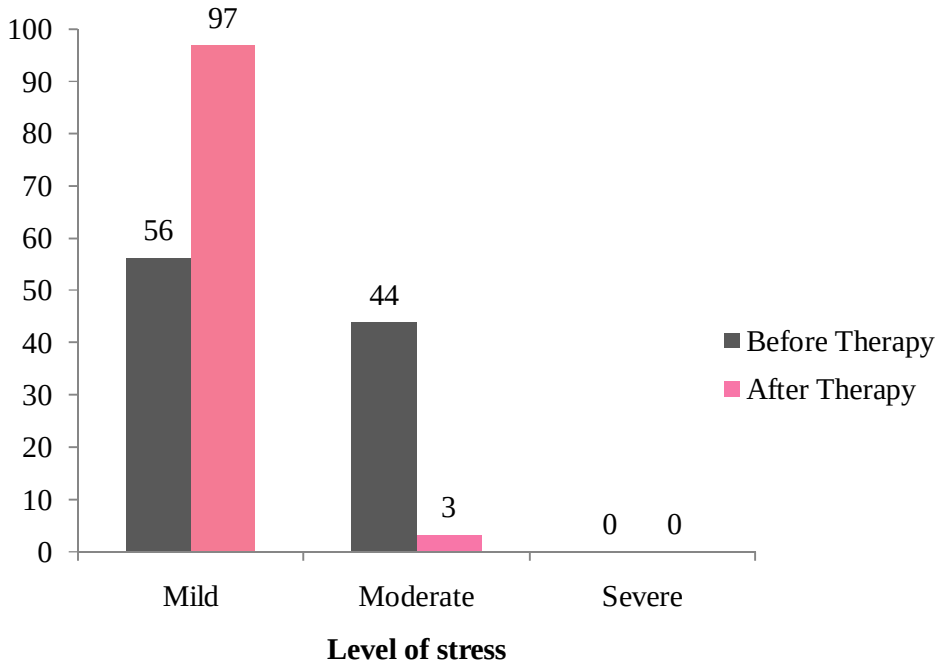



**Fig 4.1**

**Comparison of Stress Level of Antenatal Mothers Before and After Mindfulness Therapy**

### 4.2.2. Assessment of Anxiety Level among Antenatal Mothers

Anxiety level of the antenatal mothers was assessed with standardized tool of State Trait Anxiety Inventory with categorization of mild, moderate and severe anxiety.

**Table 4.7**

**Distribution on the Anxiety Level Inventory Before and After Mindfulness Therapy among Antenatal Mothers**

**(N=32)**

| Level of Anxiety Inventory | | Before Intervention | | After Intervention | |
|---|---|---|---|---|---|
| | | No. of Antenatal Mothers | Percentage (%) | No. of Antenatal mothers | Percentage (%) |
| State Anxiety | Mild (<25p) | 1 | 3 | 3 | 9 |
| | Moderate (25-75p) | 8 | 25 | 20 | 63 |
| | Severe (>75) | 23 | 72 | 9 | 28 |
| Triat Anxiety | Mild (<25p) | 1 | 3 | 2 | 6 |
| | Moderate (25-75p) | 8 | 25 | 23 | 72 |
| | Severe (>75) | 23 | 72 | 7 | 22 |

The above table represents the distribution on level of state and triat anxiety of antenatal mothers before and after mindfulness therapy. The state anxiety reveals that, before intervention 3% of the antenatal mothers had mild anxiety, 25% of the antenatal mothers had moderate anxiety and 72% of the antenatal mothers had severe anxiety. After intervention 9% of the antenatal mothers had mild anxiety, 63% of the antenatal mothers had moderate anxiety and 28% of the antenatal mothers remained in severe anxiety level but there was an improvement in their exact scores.

The triat anxiety reveals that before intervention, 3% of the antenatal mothers had mild anxiety, 25% of the antenatal mothers had moderate anxiety and 72% of the antenatal mothers had severe anxiety. After intervention 6% of the antenatal mothers had mild anxiety 72% of the antenatal mothers had moderate anxiety and 22% of the antenatal mothers remained in severe anxiety level but there was an improvement in their exact scores. Thus mindfulness therapy was effective in reducing anxiety of antenatal mothers.

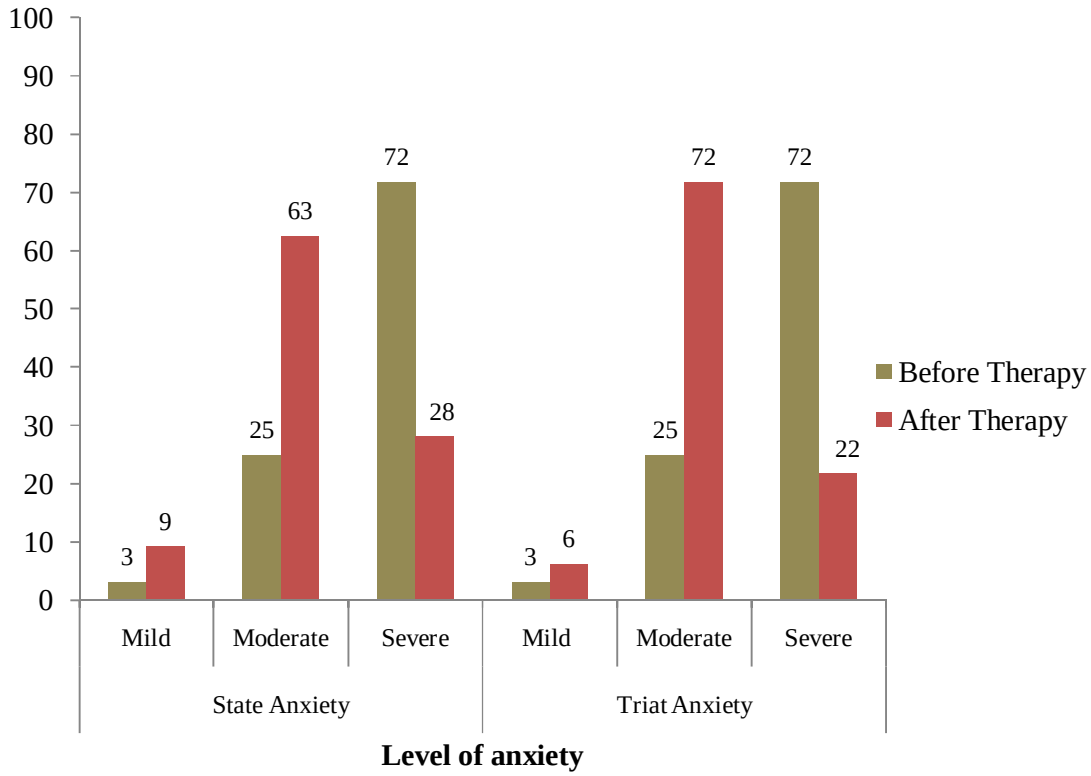



**Fig 4.2**

**Comparison of Anxiety Level of Antenatal Mothers Before and After Mindfulness Therapy**

## SECTION III

### 4.3. ANALYSIS ON EFFECT OF MINDFULNESS THERAPY AMONG ANTENATAL MOTHERS

Paired 't' test was used to find out the significance in effect of mindfulness therapy on stress and anxiety among antenatal mothers.

**Table 4.8**

**Mean, Standard Deviation and 't' Value of the Stress and Anxiety among Antenatal Mothers before and after Mindfulness Therapy**

**(N=32)**

| Psychological Status | Before Intervention | | | After Intervention | | | Mean difference | t |
|---|---|---|---|---|---|---|---|---|
| | Mean | Mean % | SD | Mean | Mean % | SD | | |
| Stress | 39.9 | 50 | 5.3 | 32.7 | 41 | 4.5 | 7.2 | 21** |
| State Anxiety | 75.9 | 95 | 19.6 | 61.3 | 77 | 20.8 | 18.1 | 16.32** |
| Triat Anxiety | 76 | 95 | 21.5 | 58.9 | 74 | 19.5 | 17.1 | 13.2** |

****Significant at 0.01 level**

The mean score on the stress level of antenatal mothers before and after mindfulness therapy was 39.9 and 32.7 with the standard deviation of 5.3 and 4.5 respectively. The calculated 't' value was found to be significant at 0.01 level. Thus the hypothesis "$H_1$: There is a significant difference in the level of stress among antenatal mothers before and after implementing mindfulness therapy" was accepted. Hence there exists a significant effect of mindfulness therapy on stress among antenatal mothers.

The mean score of the state anxiety of antenatal mothers before and after mindfulness therapy was 75.9 and 61.3 with the standard deviation of 19.6 and 20.8 respectively. The calculated 't' value was found to be significant at 0.01 level.

The mean score of the triat anxiety of antenatal mothers before and after mindfulness therapy was 76 and 58.9 with the standard deviation of 21.5 and 19.5 respectively. The calculated 't' was found to be significant at 0.01 level. Thus the hypothesis "$H_2$: There is a significant difference in the level of anxiety among antenatal mothers before and after implementing mindfulness therapy" was accepted. Hence there exists a significant effect of mindfulness therapy on anxiety among antenatal mothers.

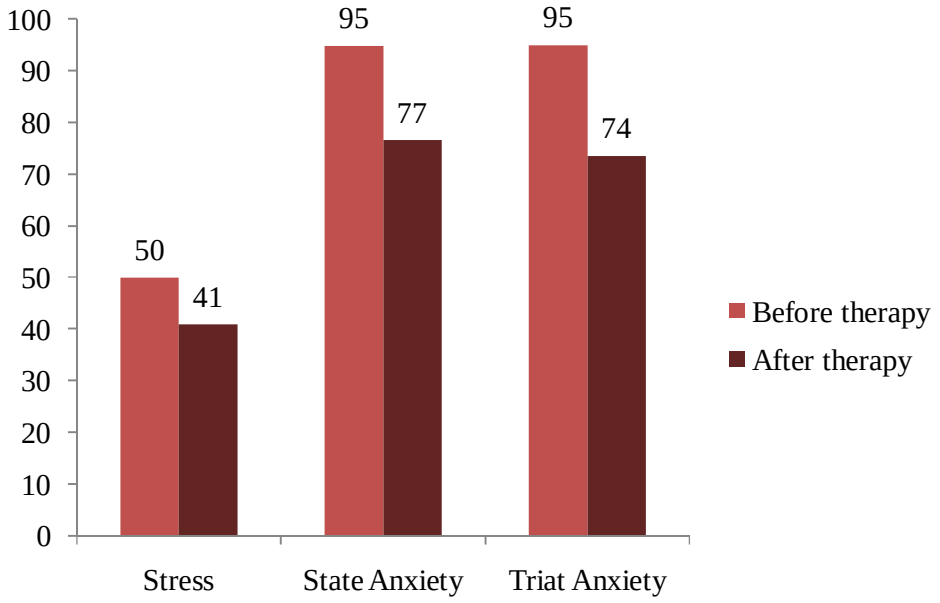



**Fig 4.3**

**Mean Percentage of Stress and Anxiety of Antenatal Mothers Before and After Mindfulness Therapy**

## SECTION – IV

### 4.4. RELATIONSHIP BETWEEN LEVEL OF STRESS AND ANXIETY WITH SELECTED VARIABLES

#### 4.4.1. Relationship between Level of Stress among Antenatal Mothers and Level of Anxiety

Karl Pearson's co-efficient of correlation was used to identify the influence of the stress level on level of anxiety among antenatal mothers.

**Table 4.9**

**Influence of Stress Level on Level of Anxiety among Antenatal Mothers**

**(N=32)**

| | **'r' value** | |
|---|---|---|
| | **State Anxiety** | **Triat Anxiety** |
| **Stress** | 0.42* | 0.55* |

***Significant at 0.05 level**

Table 4.12 presents the influence of stress on anxiety. The calculated 'r' value of state anxiety was 0.42* and trait anxiety was 0.55* which was found to be significant at 0.05 level. Hence the hypothesis **"$H_{3:}$ There is a significant correlation in the level of stress with anxiety among antenatal mothers"** is accepted.

### 4.4.2. Influence of Selected Demographic Variables on the Level of Stress and Anxiety among Antenatal Mothers

Karl Pearson's co-efficient of correlation was used to identify the influence of selected demographic variables with the level of stress and anxiety among antenatal mothers.

**Table 4.10**

**Influence of Selected Demographic Variables on the Level of Stress and Anxiety among Antenatal Mothers**

**(N=32)**

| Demographic Variables | 'r' value | | |
|---|---|---|---|
| | Perceived Stress Scale | State Anxiety Inventory | Triat Anxiety Inventory |
| Education | -0.483* | -0.155 | -0.30* |
| Live birth | 0.11 | 0.18 | 0.23* |

***Significant at 0.05 level**

The above table represents the influence of selected demographic variables on the level of stress and anxiety among antenatal mothers. The calculated 'r' value of education on stress was 0.483* and on trait anxiety was 0.30* which was found to be significant at 0.05 level. The calculated 'r' value of live child birth on trait anxiety was 0.23* which was found to be significant at 0.05 level. Hence the hypothesis **"$H_4$: There is a significant relation in the level of stress and anxiety among antenatal mothers and selected demographic variables"** is accepted.

### 4.4.3. Influence of High Risk Status on the Level of Stress and Anxiety among Antenatal Mothers

Karl Pearson's co-efficient of correlation was used to identify the influence of High Risk Status on the level of stress and anxiety among antenatal mothers.

**Table 4.11**

**Influence of High Risk Status on the Level of Stress and Anxiety among Antenatal Mothers**

**(N=32)**

| | **'r' value** | | |
|---|---|---|---|
| | **Perceived Stress** | **State Anxiety** | **Triat Anxiety** |
| High Risk Status | -0.05 | 0.03 | 0.24* |

Table 4.11 presents the influence of high risk status of the antenatal mothers in their obstetrical history with their stress and anxiety. The calculated 'r' value of high risk status on trait anxiety was 0.24* which was found to be significant at 0.05 level. Hence the hypothesis **"$H_5$: There is a significant relation in the level of stress and anxiety among antenatal mothers and high risk status"** is accepted.

# RESULTS AND DISCUSSION

Chapter five deals with the interpretation of the results and discussion of findings in the study. The study was conducted in Obstetrics and Gynaecological ward at Sri Ramakrishna hospital, Coimbatore. The main focus of the study was to assess the effect of mindfulness therapy on stress and anxiety among antenatal mothers.

A sample of 32 antenatal mothers were identified and demographic variables were recorded. One group pre test post test design was adopted in this study. The samples were selected using the purposive sampling technique. Perceived Stress Scale and State Trait Anxiety Inventory Questionnaire were used to assess the stress and anxiety. Mindfulness therapy was imparted to the antenatal mothers, twice a day for 3 consecutive days. After the intervention stress and anxiety were reassessed using the same scale.

The findings of the present study arrived after an in depth analysis of the data gathered. Descriptive and inferential statistical methods were employed to analyse the data and test the hypotheses.

## 5.1. FINDINGS RELATED TO DEMOGRAPHIC CHARACTERISTICS

Demographic characteristics of the antenatal mothers states that out of total sample size of 32, majority of the antenatal mothers (78%) were between the age group of 20-29 years and only 22% of the antenatal mothers were between the age group of 30-39 years. In regard to educational status 16% of the antenatal mothers completed primary education, 25% of the antenatal mothers completed secondary

education, 37% of the antenatal mothers were under graduates and 22% of the antenatal mothers were post graduates. When considering the employement status, 3% of the antenatal mothers were employed and 97% of the antenatal mothers were unemployed. With regard to family status, 37% live in joint family and 63% live as nuclear family. With regard to the residence of antenatal mothers, 12% of the antenatal mothers live in rural area and 88% of the antenatal mothers live in urban area. Distribution of spouse employement status had revealed that all were employed. According to the family income distribution 22% of the antenatal mothers' family income was less than Rs 20,000, 41% of the antenatal mothers' family income was between Rs 21,000 - 40,000 and 37% of the antenatal mothers' family income was more than Rs 40,000.

Reeta Lampinen, Katri Vehvilainen-Julkunen, and Paivi Kankkunen (2009) conducted a study to find whether advanced maternal age is associated with certain pregnancy-related risks. They found that, women over 35 years gather and receive information from health care providers and hence they worry about their status. Thus stating that women's maternal age when get increases, their anxiety level also increases.

In the present study, only one antenatal mother remained above 35 years with high risk status, moderate stress with a score of 43 and severe level of anxiety with a value of 85 percentile in state anxiety and 86 percentile in triat anxiety.

The obstetrical details of the antenatal mothers revealed that, Majority (59%) of the antenatal mothers were married between 18-23 years and 41% of the antenatal mothers were married between 24-29 years. 38% of the antenatal mothers got

concieved between the age of 20-25 years, 47% of the antenatal mothers got concieved between the age of 26-31 years and 16% of the antenatal mothers got concieved between the age of 32-37 years. 38% of the antenatal mothers were in primi gravida status and 62% of the antenatal mothers were in multi gravida status. All antenatal mothers had planned nature of pregnancy. Out of 32 antenatal mothers, 9% of the antenatal mothers were in the first trimester, 35% of the antenatal mothers were in the second trimester and 56% of the antenatal mothers were in the third trimester. 88% of the antenatal mothers had complicated type of pregnancy and 12% of the antenatal mothers had uncomplicated type of pregnancy. 80% of the antenatal mothers were primi parous and 13% of the antenatal mothers were multi parous. 65% of the antenatal mothers had history of live child birth and 35% of the multi gravida antenatal mothers had history of abortion.

In the present study, 8 antenatal mothers remained from 35 – 39 weeks. One antenatal mother had moderate stress and 7 antenatal mothers remained in mild stress. Where one antenatal mother remained in mild anxiety and 7 antenatal mothers remained in severe anxiety.

In the past obstetrical history, 80% of the antenatal mothers were primi parous and 13% of the antenatal mothers were multi parous. 65% of the antenatal mothers had the history of live child birth and 35% of the antenatal mothers had history of abortion. All the antenatal mothers in this category (100%) had planned pregnancy. 50% of the antenatal mothers had complicated pregnancy and 50% of the antenatal mothers had uncomplicated pregnancy. 65% of the antenatal mothers delivered at term. 35% of the antenatal mothers delivered vaginally and 30% of the antenatal mothers delivered through cesarean section.

In this study, Coopland's High Risk Evaluation was used to find the influence of high risk status in their obstetrical history with stress and anxiety of the antenatal mothers. The result denotes that, 69% antenatal mothers scored 0-2 and were desiganted low risk while 31% of the antenatal mothers scored 3-6 and were designated high risk. In regard to association between stress and anxiety with high risk status, there is a significant relation between the level of stress and anxiety of antenatal mothers and high risk status.

Jane Collingwood and A team from the University of British Columbia, Canada, in 2008 aimed to find the prevalence of anxiety in antenatal period. They surveyed 650 women at 35 and 39 weeks gestation, with low-risk pregnancies. They found that 25% of women reported high levels of childbirth fear, and this was positively correlated with anxiety.

Researcher developed Stress Related Symptoms Checklist to assess the symptoms that majority of the antenatal mothers experience when they are stressed and anxious. The result states that 56% of the antenatal mothers had irritability and fatigue/ tiredness respectively and 67% of the antenatal mothers had mood swings and difficulty in making decision respectively when they were stressed and anxious.

## 5.2. ASSESSMENT OF STRESS AND ANXIETY AMONG ANTENATAL MOTHERS BEFORE MINDFULNESS THERAPY

The stress and anxiety of the antenatal mothers were assessed by using the Perceived Stress Scale and State Trait Anxiety Inventory.

The total mean percentage of the stress score before intervention was 50% with total mean of 39.9 and standard deviation of 5.3. Mean percentage of the anxiety score before intervention was 95% for state anxiety and 95% for trait anxiety with a total mean of 75.9 for state anxiety and 76 for trait anxiety. Standard deviation for anxiety score was 19.6 for state anxiety and 21.5 for trait anxiety.

## 5.3. IMPARTING MINDFULNESS THERAPY FOR ANTENATAL MOTHERS WITH STRESS AND ANXIETY

After assessing the stress and anxiety, mindfulness therpay was imparted to antenatal mothers with stress and anxiety. Mindfulness therapy is an intervention which helps in bringing relaxation to mind and body and thus reducing the stress and anxiety. Each session of the training was given for a period of 20 minutes, twice a day for 3 consecutive days for each sample.

Vieten C, Astin J (2007) conducted a study to assess the effects of a mindfulness based intervention during pregnancy on prenatal stress and negative mood. An eight week mindfulness based intervention was developed. Result states that mother who received intevention showed reduced anxiety and negative mood in the third trimester in comparison to those who did not receive the intervention.

## 5.4. ANALYSIS OF STRESS AND ANXIETY BEFORE AND AFTER IMPARTING MINDFULNESS THERAPY

After imparting mindfulness therapy the level of stress and anxiety were assessed using the same tool. Analysis was done and the interpretation are as follows.

In this present study, perceived stress scale was used to assess the perceived stress. The result states that 56% of the antenatal mothers had mild stress and 44% of the antenatal mothers had moderate stress before mindfulness therapy. After mindfulness therapy 97% of the antenatal mothers had mild stress and 3% of the antenatal mothers had moderate stress but there was an improvement in their exact scores.

In the present study, the anxiety was assessed using State Trait Anxiety Inventory. The result states that in State anxiety, before intervention, 3% of the antenatal mothers had mild anxiety, 25% of the antenatal mothers had moderate anxiety and 72% of the antenatal mothers had severe anxiety. After intervention 9% of the antenatal mothers had mild anxiety, 63% of the antenatal mothers had moderate anxiety and 28% of the antenatal mothers had severe anxiety. In Triat anxiety, before intervention, 3% of the antenatal mothers had mild anxiety, 25% of the antenatal mothers had moderate anxiety and 72% of the antenatal mothers had severe anxiety. After intervention 6% of the antenatal mothers had mild anxiety, 72% of the antenatal mothers had moderate anxiety and 22% of the antenatal mothers had severe anxiety.

The mean score of the stress of antenatal mothers before and after mindfulnes therapy was 39.9 and 32.7 with the standard deviation of 5.3 and 4.5 respectively. The calculated ‘t’ value was compared with the table value at 0.01 level of significance. The calculated ‘t’ value was greater than the table value. Hence there exists a significant effect of mindfulness therapy on stress among antenatal mothers.

The mean score of the state anxiety of antenatal mothers before and after mindfulness therapy was 75.9 and 61.3 with the standard deviation of 19.6 and 20.8

respectively. The calculated ‘t’ value was compared with the table value at 0.01 level of significance. The calculated ‘t’ value was greater than the table value. Hence there exists a significant effect of mindfulness therapy on state anxiety among antenatal mothers.

The mean score of the triat anxiety of antenatal mothers before and after mindfulness therapy was 76 and 58.9 with the standard deviation of 21.5 and 19.5 respectively. The calculated ‘t’ value was compared with the table value at 0.01 level of significance. The calculated ‘t’ value was greater than the table value. Hence there exists a significant effect of mindfulness therapy on trait anxiety among antenatal mothers.

## 5.5. TESTING HYPOTHESIS

The calculated ‘t’ value of stress was 21**, state anxiety was 16.32** and trait anxiety was 13.2** which was found to be significant at 0.01 level. Hence the hypothesis **“$H_1$ and $H_2$: There is a significant difference in the level of stress and anxiety among antenatal mothers before and after implementing mindfulness therapy”** is accepted. This proves that mindfulness therapy is effective in reducing the stress and anxiety among antenatal mothers.

The influence of stress on anxiety was assessed. The calculated ‘r’ value of state anxiety was 0.42* and trait anxiety was 0.55* which was found to be significant at 0.05 level. Hence the hypothesis **“$H_3$: There is a significant correlation in the level of stress and anxiety among antenatal mothers before and after implementing mindfulness therapy”** is accepted.

The influence of stress and anxiety on selected demographic variables. The calculated 'r' value of education on stress was 0.483* and on trait anxiety was 0.30* which was found to be significant at 0.05 level. The calculated 'r' value of live child birth on trait anxiety was 0.23* which was found to be significant at 0.05 level.Hence the hypothesis **"$H_4$: There is a significant relation in the level of stress and anxiety among antenatal mothers and selected demographic variables"** is accepted.

The influence of stress and anxiety on high risk status was assessed. The calculated 'r' value of high risk status on trait anxiety was 0.24* which was found to be significant at 0.05 level. Hence the hypothesis **"$H_5$: There is a significant relation in the level of stress and anxiety among antenatal mothers and high risk status"** is accepted.

# SUMMARY AND CONCLUSON

The study was undertaken to evaluate the effect of mindfulness therapy on stress and anxiety among antenatal mothers. Pregnancy leads to changes in the body both physiologically and psychologically. Poor adaptation induces stress and anxiety which leads to lots of impact on growing fetus. Alternative and complementary therapy has become popular in the field of medicine and nursing for effective and satisfactory psychological and physical outcome. One among them is Mindfulness therapy. Mindfulness therapy is an intervention imparted to reduce the stress and anxiety among antenatal mothers.

The conceptual framework of the study was based upon Sr. Calista Roy's adaptation model (1964).

The present study was conducted at, Obstetrics and Gynaecological Ward of Sri Ramakrishna Hospital, Coimbatore. Quasi experimental one group pre test post test design was adopted and convenient sampling technique was used to select the antenatal mothers. Total number of antenatal mothers selected for the study were 32. Pre test was administered using Perceived Stress Scale to assess the stress and State Trait Anxiety Inventory to assess anxiety of antenatal mothers. Mindfulness therapy was imparted twice a day for 20 minutes for three consecutive days, over a month period. It was followed by a post test using the same scale. The data obtained were analysed using descriptive and inferential statistics. The results revealed that there was a significant improvement in the stress and anxiety. Hence, it was concluded that mindfulness therapy was effective in reducing the stress and anxiety of antenatal mothers.

## 6.1. MAJOR FINDINGS OF THE STUDY

1. The study shows that the level of stress and anxiety was found to have a difference before and after the intervention with a the mean score of 39.9 to 32.5 for stress, 75.9 to 61.3 for state anxiety and 76 to 58.9 for trait anxiety after mindfulness therapy.
2. 37% of antenatal mothers moved from moderate stress to mild stress, 6% from moderate state anxiety to mild state anxiety, 38% from severe state anxiety to moderate anxiety, 3% from moderate triat anxiety to mild triat anxiety and 47% from severe triat anxiety to moderate anxiety after mindfulness therapy.
3. The study shows that mindfulness therapy was effective in bringing out a difference between stress and anxiety with a mean percentage of 50% to 41% in stress, 95% to 77% in state anxiety and 95% to 74% in triat anxiety.
4. Influence of stress on anxiety was analysed and the result states that there exists a significant relation between stress, state anxiety and triat anxiety.
5. Influence of selected demographic variables on the level of Stress and anxiety among antenatal mothers was analysed and the result states that, there exists a significant relation between education status of the antenatal mothers and perceived stress and triat anxiety and significant relation between live child birth in their past obstetrcal history and triat anxiety.
6. Influence of high risk status in obstetrical history with their stress and anxiety were analysed and the result states that there exists a significant relation between the high risk status and triat anxiety.

## 6.2. RECOMMENDATIONS

1. A longitudinal study can be conducted to determine the effect of mindfulness therapy on pregnancy outcome among antenatal mothers.
2. A longitudinal study can be conducted among antenatal mothers to determine the effect of mindfulness therapy on postnatal stress and mood.
3. A longitudinal study can be conducted among antenatal mothers to determine the effect of mindfulness therapy on fetal and neonatal outcome.

## 6.3. NURSING IMPLICATIONS

Study has identified major implications in all the aspects of nursing namely clinical practice, administration, education and research.

### 6.3.1. NURSING EDUCATION

Mindfulness therapy is considered to be one of the effective non pharmacological interventions which play a role in reducing the stress and anxiety of antenatal mothers and improving their health both psychologically and physiologically. In the emerging trend of nursing and midwifery, alternative and complementary therapies are given more importance. Hence this can be included in the nursing curriculum.

### 6.3.2. NURSING PRACTICE

Nurses play a vital role in administering holistic care to the person who seek hospitals to improve their health. Since alternative and complementary therapies are given more importance, nurses must be given exposure regarding various alternative

and complementary therapies through continuing education sessions. Because, registered nurse are the qualified professional health care providers who make appropriate decisions to their clients regarding the nursing care to be provided including the application of the therapies in the complementary mode as nursing interventions. This will help to build an image on the nurses as a care giver, counselor, educator and hospice nurse which is an extended role of the nurse.

### 6.3.3. NURSING ADMINISTRATION

The nursing administrator can draw written policies regarding the administration of mindfulness therapy to reduce stress and anxiety among antenatal mothers which is one of the component of alternative and complementary therapy. There by the staff nurses are kept in pace with the evidence based practice.

### 6.3.4. NURSING RESEARCH

The study has tested the effect of mindfulness therapy on stress and anxiety among antenatal mothers which helps to utilize the results of the present study to practice. Longitudinal studies could be undertaken to assess the long term effect of mindfulness therapy.

## 6.4. CONCLUSION

Stress and anxiety is experienced by every individual and especially antenatal mothers due to various causes. It is one of the important responsibility of every nurse to check the level of stress and anxiety experienced by the antenatal mothers and provide the mindfulness therapy. This was proven by the present study which was conducted to find the effect of mindfulness therapy on stress and anxiety among

antenatal mothers. The mean percentage of mindfulness therapy improved from 50% to 41% in stress, 95% to 77% in state anxiety and 95% to 74% in triat anxiety. Hence the intervention was effective in reducing the stress and anxiety of antenatal mothers.

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# APPENDIX I

**From**

S. Sherine Mani Merlin,

MSc (Nursing) 1 year,

Sri Ramakrishna Institute of Paramedical Sciences,

Coimbatore -44.

**To**

The Dean,

Sri Ramakrishna Institute of Paramedical Sciences,

Coimbatore -44.

**Through**

The Principal,

Sri Ramakrishna Institute of Paramedical Sciences,

Coimbatore -44.

**Respected Sir,**

**Subject:** Requesting permission to conduct study in SRI RAMAKRISHNA HOSPITAL.

I am S.Sherine Mani Merlin doing my 1st year M.Sc Nursing in Sri Ramakrishna Institute of paramedical sciences and as a part of my M.Sc Nursing programme I have undertaken the following study for my research **Effect of Mindfulness Therapy on Stress among antenatal mothers at Sri Ramakrishna Hospital, Coimbatore.** I would like to do the above said study in Obstetrics and Gynaecological ward in our esteemed institution. I humbly request you to grant me permission to conduct the study in our institution. Here by I am attaching a brief copy of the research proposal.

Thanking you

PRINCIPAL
College of Nursing,
Sri Ramakrishna Institute of Paramedical Sciences
Coimbatore - 641 044

Yours sincerely,

S.Sherine Mani Merlin

Permitted

26/2/13

**From**

S. Sherine Mani Merlin,

MSc (Nursing) 1 year,

Sri Ramakrishna Institute of Paramedical Sciences,

Coimbatore -44.

**To**

Dr. Lalitha MBBS,DGO,

Consultant [Obstetrics and Gynaecology]

Sri Ramakrishna Hospital,

Coimbatore -44.

**Through**

The Principal,

Sri Ramakrishna Institute of Paramedical Sciences,

Coimbatore -44.

**Respected Madam,**

**Subject:** Requesting permission to conduct study in SRI RAMAKRISHNA HOSPITAL.

I am S.Sherine Mani Merlin doing my 1st year M.Sc Nursing in Sri Ramakrishna Institute of paramedical sciences and as a part of my M.Sc Nursing programme I have undertaken the following study for my research **Effect of Mindfulness Therapy on Stress among antenatal mothers at Sri Ramakrishna Hospital, Coimbatore.** I would like to do the above said study in Obstetrics and Gynaecological Ward in our esteemed institution. I humbly request you to grant me permission to conduct the study in our institution. Here by I am attaching a brief copy of the research proposal.

Permitted.

Thanking you

Yours sincerely,

PRINCIPAL
College of Nursing,
Sri Ramakrishna Institute of Paramedical Sciences
Coimbatore - 641 044

S.Sherine Mani Merlin

Dr. R.LALITHA, M.B.B.S DGO.
Obstetrician & Gynaecologist
Sri Ramakrishna Hospital,
COIMBATORE.

**From**

S. Sherine Mani Merlin,

MSc (Nursing) 1 year,

Sri Ramakrishna Institute of Paramedical Sciences,

Coimbatore -44.

**To**

Dr. Banumathy,

Obstertrics and Gynaecological Department,

Sri Ramakrishna Hospital,

Coimbatore -44.

**Through**

The Principal,

Sri Ramakrishna Institute of Paramedical Sciences,

Coimbatore -44.

**Respected Madam,**

**Subject:** Requesting permission to conduct study in SRI RAMAKRISHNA HOSPITAL.

I am S.Sherine Mani Merlin doing my 1st year M.Sc Nursing in Sri Ramakrishna Institute of paramedical sciences and as a part of my M.Sc Nursing programme I have undertaken the following study for my research **Effect of Mindfulness Therapy on Stress among antenatal mothers at Sri Ramakrishna Hospital, Coimbatore.** I would like to do the above said study in Obstetrics and Gynaecological Ward in our esteemed institution. I humbly request you to grant me permission to conduct the study in our institution. Here by I am attaching a brief copy of the research proposal.

Thanking you

PRINCIPAL
College of Nursing,
Sri Ramakrishna Institute of Paramedical Sciences
Coimbatore - 641 044

Yours sincerely,

S.Sherine Mani Merlin

Permitted

DR. M. BANUMATHY. MBBS; DGO, DNB
REG. No: 29866
OBSTETRICIAN & GYNAECOLOGIST

# APPENDIX II

## REQUISITION LETTER

From,

S.Sherine Mani Merlin,
M.Sc (Nursing) II year,
College Of Nursing, SRIPMS,
Coimbatore.

To,

Prof. Baby,
H.O.D. Department of OBG Nursing
PSG College of Nursing
Coimbatore.

Through,

The Principal,
College Of Nursing,
SRIPMS,
Coimbatore.

Respected Sir/Madam,

Subject: Requesting for tool and content validation: - Reg

I am S.Sherine Mani Merlin doing my 2nd year M.Sc Nursing at Sri Ramakrishna Institute of Paramedical Sciences and as a part of my M.Sc Nursing Program, I have undertaken the following study for my research "**Effect of Mindfulness Therapy on Stress** Reduction **Among Antenatal Mothers at Sri Ramakrishna Hospital, Coimbatore.**" The following tool is tend to be used, hence I request you to kindly give me a valuable suggestion and necessary modification for the same.

Thanking you,

Yours Sincerely,

Coimbatore.
08.05.13

for PRINCIPAL
College of Nursing,
Sri Ramakrishna Institute of Paramedical Sciences
Coimbatore - 641 044

(S. Sherine Mani Merlin)

**CONTENT VALIDITY FORMAT**

Name of the Expert : S. BABY

Address : PROF. & HOD,
OBG NSG. DEPT.
PSG COLLEGE OF NURSING,
COIMBATORE.

Kindly validate each section in the tool and mark wherever applicable.

| S.NO | SECTIONS OF THE TOOL | STRONGLY AGREE | AGREE | NEED NOTIFICATION | REMARKS |
|---|---|---|---|---|---|
| 1. | SECTION-1 | | ✓ | | |
| 2. | SECTION-2 | ✓ | | | |
| 3. | SECTION-3 | | ✓ | | Some symptoms are not stress symptoms. modify. |
| 4. | SECTION-4 | ✓ | | | |

Total content of the tool : ✓ Adequate/Inadequate

Date: 10.5.13.

S. Baby
Signature of the Expert

PSG COLLEGE OF NURSING
Peelamedu
COIMBATORE-4

**REQUISITION LETTER**

From,

S.Sherine Mani Merlin,
M.Sc (Nursing) II year,
College Of Nursing, SRIPMS,
Coimbatore.

To,

Prof. Sheeba,
HOD, Department of Obstetrics & Gynaecology,
KG College of Nursing,
Coimbatore.

Through,

The Principal,
College Of Nursing,
SRIPMS,
Coimbatore.

Respected Sir/Madam,

Subject: Requesting for tool and content validation: - Reg

I am S.Sherine Mani Merlin doing my 2nd year M.Sc Nursing at Sri Ramakrishna Institute of Paramedical Sciences and as a part of my M.Sc Nursing Program, I have undertaken the following study for my research "**Effect of Mindfulness Therapy on Stress Among Antenatal Mothers at Sri Ramakrishna Hospital, Coimbatore.**" The following tool is tend to be used, hence I request you to kindly give me a valuable suggestion and necessary modification for the same.

Thanking you,

Coimbatore.

Yours Sincerely,

PRINCIPAL
College of Nursing,
Sri Ramakrishna Institute of Paramedical Sciences
Coimbatore - 641 044

(S. Sherine Mani Merlin)

**CONTENT VALIDITY FORMAT**

Name of the Expert : MRS. R. Sheeba.

Address : Professor
K.G. College of Nursing
Coimbatore

Kindly validate each section in the tool and mark wherever applicable.

| S.NO | SECTIONS OF THE TOOL | STRONGLY AGREE | AGREE | NEED NOTIFICATION | REMARKS |
|---|---|---|---|---|---|
| 1. | SECTION-1 | | ✓ | | |
| 2. | SECTION-2 | | ✓ | | |
| 3. | SECTION-3 | | ✓ | | |
| 4. | SECTION-4 | ✓ | | | |

Total content of the tool : Adequate✓/Inadequate

Date: 5.13.

K.G. College of Nursing, K.G. Hospital
17 MAY 2013
Coimbatore.
I.N.C. Code No: 29040[illegible]

Signature of the Expert

**REQUISITION LETTER**

From,

S.Sherine Mani Merlin,
M.Sc (Nursing) II year,
College Of Nursing, SRIPMS,
Coimbatore.

To,

PROF. LATHA
PRINCIPAL
RVS COLLEGE OF NURSING
COIMBATORE.

Through,

The Principal,
College Of Nursing,
SRIPMS,
Coimbatore.

Respected Sir/Madam,

Subject: Requesting for tool and content validation: - Reg

I am S.Sherine Mani Merlin doing my 2nd year M.Sc Nursing at Sri Ramakrishna Institute of Paramedical Sciences and as a part of my M.Sc Nursing Program, I have undertaken the following study for my research **"Effect of Mindfulness Therapy on Stress Among Antenatal Mothers at Sri Ramakrishna Hospital, Coimbatore."** The following tool is tend to be used, hence I request you to kindly give me a valuable suggestion and necessary modification for the same.

Thanking you,

Coimbatore.
08.05.13

K. Ramathilag
PRINCIPAL
College of Nursing,
Sri Ramakrishna Institute of Paramedical Sciences
Coimbatore - 641 044.

Yours Sincerely,

(S. Sherine Mani Merlin)

**CONTENT VALIDITY FORMAT**

Name of the Expert : PROF(MRS) LATHA,

Address : PRINCIPAL, RVS COLLEGE OF NURSING,
KUMARAN KOTTAM CAMPUS, TRICHY ROAD,
KANNAMPALAYAM, COIMBATORE- 641402.

Kindly validate each section in the tool and mark wherever applicable.

| S.NO | SECTIONS OF THE TOOL | STRONGLY AGREE | AGREE | NEED NOTIFICATION | REMARKS |
|---|---|---|---|---|---|
| 1. | SECTION-1 | | ✓ | | |
| 2. | SECTION-2 | | ✓ | | |
| 3. | SECTION-3 | | ✓ | | |
| 4. | SECTION-4 | | ✓ | | |

Total content of the tool : Adequate/Inadequate

Date: 14.05.2013

Signature of the Expert

14/05/13

PRINCIPAL
R.V.S. COLLEGE OF NURSING
KANNAMPALAYAM
TRICHY ROAD, SULUR
COIMBATORE - 641 402

**REQUISITION LETTER**

From,

S.Sherine Mani Merlin,
M.Sc (Nursing) II year,
College Of Nursing, SRIPMS,
Coimbatore.

To,

Dr. V. Chandramohan,
Associate Professor of Psychology,
No: 5, First Cross,
Balasubramanian Nagar,
Coimbatore - 641 029

Through,

The Principal,
College Of Nursing,
SRIPMS,
Coimbatore.

Respected Sir/Madam,

Subject: Requesting for tool and content validation:- Reg

I am S.Sherine Mani Merlin doing my 2nd year M.Sc Nursing at Sri Ramakrishna Institute of Paramedical Sciences and as a part of my M.Sc Nursing Program, I have undertaken the following study for my research "**Effect of Mindfulness Therapy on Stress among antenatal mothers at Sri Ramakrishna Hospital, Coimbatore.** ". The following tool is tend to be used, hence I request you to kindly give me a valuable suggestion and necessary modification for the same.

Thanking you,

Coimbatore.

Yours sincerely,

PRINCIPAL
College of Nursing
Sri Ramakrishna Institute of Paramedical Sciences
Coimbatore - 641 044

(S. Sherine Mani Merlin)

## CONTENT VALIDITY FORMAT

Name of the Expert : Dr V C CHANDRAMOHAN

Address : Associate Professor of Psychology

Dr. V. Chandramohan, M.A., M.Phil., Ph.D.,
Clinical Psychologist
Department of Psychiatry
Command Hospital Air Force
Agram (P.O.), Bangalore - 560 007.

Kindly validate each section in the tool and mark wherever applicable.

| S.NO | SECTIONS OF THE TOOL | STRONGLY AGREE | AGREE | NEED NOTIFICATION | REMARKS |
|---|---|---|---|---|---|
| 1. | SECTION-1 | YES | | | Good |
| 2. | SECTION-2 | YES | | | Excellent |
| 3. | SECTION-3 | — | | YES | — |
| 4. | SECTION-4 | — | | YES | — |

Total content of the tool : ~~Adequate~~/Inadequate

Date: 11 May 2013

Signature of the Expert

11/5/13

Dr. V. Chandramohan, M.A., M.Phil., Ph.D.,
Clinical Psychologist
Department of Psychiatry
Command Hospital Air Force
Agram (P.O.), Bangalore - 560 007.

Dr. V. CHANDRAMOHAN
CLINICAL PSYCHOLOGIST
REHABILITATION PSYCHOLOGIST
RCI Reg No. A19063

**REQUISITION LETTER**

From,

S.Sherine Mani Merlin,
M.Sc (Nursing) II year,
College Of Nursing, SRIPMS,
Coimbatore.

To,

Dr. Lalitha MBBS, DGO
Consultant Obstetrician & Gynaecologist
Sri Ramakrishna Hospital
Coimbatore

Through,

The Principal,
College Of Nursing,
SRIPMS,
Coimbatore.

Respected Sir/Madam,

Subject: Requesting for tool and content validation: - Reg

I am S.Sherine Mani Merlin doing my 2nd year M.Sc Nursing at Sri Ramakrishna Institute of Paramedical Sciences and as a part of my M.Sc Nursing Program, I have undertaken the following study for my research "**Effect of Mindfulness Therapy on Stress Among Antenatal Mothers at Sri Ramakrishna Hospital, Coimbatore.**" The following tool is tend to be used, hence I request you to kindly give me a valuable suggestion and necessary modification for the same.

Thanking you,

Coimbatore.

Yours Sincerely,

PRINCIPAL
College of Nursing,
Sri Ramakrishna Institute of Paramedical Sciences
Coimbatore - 641 044

(S. Sherine Mani Merlin)

**CONTENT VALIDITY FORMAT**

Name of the Expert : DR. LALITHA MBBS, DGO

Address : CONSULTANT OBSTETRICIAN & GYNAECOLOGIST
SRI RAMAKRISHNA HOSPITAL
COIMBATORE.

Kindly validate each section in the tool and mark wherever applicable.

| S.NO | SECTIONS OF THE TOOL | STRONGLY AGREE | AGREE | NEED NOTIFICATION | REMARKS |
|---|---|---|---|---|---|
| 1. | SECTION-1 | | ✓ | | |
| 2. | SECTION-2 | | ✓ | | |
| 3. | SECTION-3 | | ✓ | | |
| 4. | SECTION-4 | | ✓ | | |

Total content of the tool : ✓ Adequate/Inadequate

Date: 13.05.13

Signature of the Expert

Dr. R.LALITHA, M.B.B.S DGO.
Obstetrician & Gynaecologist
Sri Ramakrishna Hospital,
COIMBATORE

# APPENDIX III

# TOOL FOR DATA COLLECTION – ENGLISH

**SECTION: 1 DEMOGRAPHIC CHARACTERISTICS**

**SAMPLE NO:**

1.1. Age :

1.2. Education :

1.3. Occupation :

1.4. Family type : Joint / Nuclear

1.5. Residence : Urban / Rural

1.6. Occupation of spouse :

1.7. Family income :

**SECTION: 2 OBSTETRICAL DETAILS**

**2.1. Present obstetrical details**

2.1.1. Age at marriage :

2.1.2. Age of conception :

2.1.3. Obstetrical score : G P L A

2.1.4. Nature of pregnancy : Planned/ Unplanned

2.1.5. Gestational age in weeks :

2.1.6. Type of pregnancy : Complicated / Uncomplicated

2.1.7. Medical diagnosis :

**2.2. Past obstetrical details**

2.2.1. Nature of pregnancy : Planned/ Unplanned

2.2.2. Type of pregnancy : Complicated / Uncomplicated

2.2.3. Type of delivery : Preterm/ Term/ Post term

2.2.4. Mode of delivery : Vaginal / Caesarean section

2.2.5. Age of the last child :

2.2.6. Medical diagnosis :

**SECTION: 3 COPLAND'S HIGH RISK EVALUATION SCORE**

| Reproductive history | Score | Medical or surgical associated conditions | Score | Present Pregnancy | Score |
|---|---|---|---|---|---|
| **Age** | | Previous gynaecological surgery. | 1 | Bleeding | |
| <16 | 1 | | | 20 wks | 1 |
| 16 – 35 | 0 | | | >20 wks | 3 |
| >35 | 1 | Chronic renal disease | 1 | Anaemia (<10-8%) | 1 |
| **Parity** | | Gestational diabetes (A) | 1 | | |
| 0 | 1 | Class (B) or greater diabetes | 3 | Post maturity | 1 |
| 1 – 4 | 0 | Other significant medical disorders according to severity | 1<br>2<br>3 | Hypertension | 2 |
| >5 | 2 | | | PROM | 2 |
| 2 or more abortion history of infertility | 1 | Cardiac disease | 3 | IUGR | 3 |
| | | **Column score** | | Multiple pregnancy | 3 |
| Post partum bleeding or manual removal | 1 | | | Breech/mal presentation | 3 |
| Child >9lb | 1 | | | Rh isoimmunisation | 3 |
| Child <5lb | 1 | | | Previous CS | 2 |
| Toxaemia or hypertension | 2 | | | Abnormal or difficult labour | 2 |
| **Column score** | | | | **Total score** | |

**SECTION 4: STRESS RELATED SYMPTOMS CHECKLIST**

You are kindly instructed to tick (√) the response that you felt correct often

| S.NO | STRESS SYMPTOMS | NEVER PRESENT | LESS FREQUENTLY PRESENT | FREQUENTLY PRESENT | ALWAYS PRESENT |
|---|---|---|---|---|---|
| 1. | Irritability | | | | |
| 2. | Feeling of tension | | | | |
| 3. | Inability to concentrate | | | | |
| 4. | Forgetfulness | | | | |
| 5. | Confusion | | | | |
| 6. | Difficulty in making decisions | | | | |
| 7. | Less efficiency | | | | |
| 8. | Avoid social activities | | | | |
| 9. | Crying spells | | | | |
| 10. | Mood swings | | | | |
| 11. | Loneliness | | | | |
| 12. | Clumsiness | | | | |
| 13. | Stomach pain | | | | |
| 14. | Alterations in bowel habits | | | | |
| 15. | Headache | | | | |
| 16. | Sleep disturbances | | | | |
| 17. | Tachycardia | | | | |
| 18. | Dizziness | | | | |

| | | | | | |
|---|---|---|---|---|---|
| 19. | Feel sick | | | | |
| 20. | Vomiting | | | | |
| 21. | Fatigue/tiredness | | | | |
| 22. | Take naps/ stay in bed | | | | |
| 23. | Muscle stiffness | | | | |
| 24. | Disorganised routine function | | | | |

**SECTION : 5 PERCEIVED STRESS SCALE**

You are kindly instructed to tick ( √ ) the response that you felt correct often

| S.NO | RESPONSE | NEVER | SOME TIMES | FAIRLY OFTEN | VERY OFTEN |
|---|---|---|---|---|---|
| **SCALE-1 "WORRIES"** | | | | | |
| 1. | You are afraid for the future | | | | |
| 2. | You have many worries | | | | |
| 3. | Your problems seem to be pilling up | | | | |
| 4. | You fear you may not manage to attain your goals | | | | |
| 5. | You feel frustrated | | | | |
| **SCALE-2 "TENSION"** | | | | | |
| 6. | You feel tense | | | | |
| 7. | You feel rested | | | | |
| 8. | You feel mentally exhausted | | | | |
| 9. | You have trouble relaxing | | | | |
| 10. | You feel calm | | | | |

| S.NO | RESPONSE | NEVER | SOME TIMES | FAIRLY OFTEN | VERY OFTEN |
|---|---|---|---|---|---|
| **SCALE-3 "JOY"** | | | | | |
| 11. | You feel you're doing things you really like | | | | |
| 12. | You enjoy yourself | | | | |
| 13. | You are lighthearted | | | | |
| 14. | You are full of energy | | | | |
| 15. | You feel safe and protected | | | | |
| **SCALE-4 "DEMANDS"** | | | | | |
| 16. | You have too many things to do | | | | |
| 17. | You have enough time for yourself | | | | |
| 18. | You feel under pressure from deadlines | | | | |
| 19. | You feel you're in a hurry | | | | |
| 20. | You feel that too many demands are being made on you | | | | |

**SECTION : 6 STATE /TRIAT ANXIETY INVENTORY QUESTIONNAIRE-1**

You are kindly instructed to tick (√) the response that you felt correct often

| S No | STATEMENTS | NOT AT ALL | SOME WHAT | MODERATELY | VERY MUCH |
|---|---|---|---|---|---|
| 1 | I feel calm | | | | |
| 2 | I feel secure | | | | |

| S No | STATEMENTS | NOT AT ALL | SOME WHAT | MODERATELY | VERY MUCH |
|---|---|---|---|---|---|
| 3 | I am tense | | | | |
| 4 | I feel strained | | | | |
| 5 | I feel at case | | | | |
| 6 | I feel upset | | | | |
| 7 | I am presently worrying over possible misfortunes | | | | |
| 8 | I feel satisfied | | | | |
| 9 | I feel frightened | | | | |
| 10 | I feel comfortable | | | | |
| 11 | I feel self-confident | | | | |
| 12 | I feel nervous | | | | |
| 13 | I am jittery | | | | |
| 14 | I feel indecisive | | | | |
| 15 | I am relaxed | | | | |
| 16 | I feel content | | | | |
| 17 | I am worried | | | | |
| 18 | I feel confused | | | | |
| 19 | I fell steady | | | | |
| 20 | I feel pleasant | | | | |

**STATES /TRIAT ANXIETY INVENTORY QUESTIONNAIRE-2**

You are kindly instructed to tick (√) the response that you felt correct often

| S No | STATEMENTS | ALMOST NEVER | SOMETIMES | OFTEN | ALMOST ALWAYS |
|---|---|---|---|---|---|
| 21 | I feel pleasant | | | | |
| 22 | I feel nervous and restless | | | | |
| 23 | I feel satisfied with myself | | | | |
| 24 | I wish I could be as happy as other seems to be | | | | |
| 25 | I feel like a failure | | | | |
| 26 | I feel rested | | | | |
| 27 | I am “calm, cool and collected” | | | | |
| 28 | I feel that difficulties are piling up so that I cannot overcome them | | | | |
| 29 | I worry too much over something that really doesn’t matter | | | | |
| 30 | I am happy | | | | |
| 31 | I have disturbing thoughts | | | | |
| 32 | I lack self-confidence | | | | |
| 33 | I feel secure | | | | |
| 34 | I make decisions easily | | | | |
| 35 | I feel inadequate | | | | |
| 36 | I am content | | | | |
| 37 | Some unimportant thought runs | | | | |

| | | | | | |
|---|---|---|---|---|---|
| | through my mind and bothers me | | | | |
| 38 | I take disappointments so keenly that I can't put them out of my mind | | | | |
| 39 | I am a steady person | | | | |
| 40 | I get in a state of tension or turmoil as I think over my recent concerns and interests | | | | |

## APPENDIX IV

## TOOL FOR DATA COLLECTION - TAMIL

**<u>பிரிவு:4 மன அழுத்தம் சம்மந்தமான அறிகுறிகளுக்கான பட்டியல்</u>**

உங்களுக்கு சரி என்று தோன்றும் பதிலை டிக் (✓) செய்யவும்:

| வ.எண் | மன அழுத்தத்தின் அறிகுறிகள் | எப்பொழுதும் இல்லை | சில சமயங்—களில் | பல நேரங்க –ளில் | எப்பொழுதும் உள்ளது |
|---|---|---|---|---|---|
| 1. | எரிச்சல் | | | | |
| 2. | பதற்றநிலை | | | | |
| 3. | கவனம் செலுத்த இயலவில்லை | | | | |
| 4. | ஞாபகக் குறைவு | | | | |
| 5. | மனக்குழப்பம் | | | | |
| 6. | தீர்மானம் எடுப்பதில் சிரமம் | | | | |
| 7. | திறன் குறைவு | | | | |
| 8. | சமுதாய அக்கறையின்மை | | | | |
| 9. | அழுது சாதித்தல் | | | | |
| 10. | அலைமோதும் எண்ணம் | | | | |
| 11. | தனிமை | | | | |
| 12. | ஒழுங்கற்ற நிலை | | | | |
| 13. | வயிற்று வலி | | | | |
| 14. | மலம் கழித்தலில் மாறுபாடு | | | | |

| வ.எண் | மன அழுத்தத்தின் அறிகுறிகள் | எப்பொழுதும் இல்லை | சில சமயங்—-களில் | பல நேரங்க –-ளில் | எப்பொழுதும் உள்ளது |
|---|---|---|---|---|---|
| 15. | தலைவலி | | | | |
| 16. | தூங்குவதில் இடையூறு | | | | |
| 17. | படபடப்பு | | | | |
| 18. | தலைசுற்றுதல் | | | | |
| 19. | பலவீ னப்படுதல் | | | | |
| 20. | குமட்டல்/வாந்தி | | | | |
| 21. | சோர்வு | | | | |
| 22. | சிறுதூக்கம்/கட்டிலில் படுத்திருப்பது | | | | |
| 23. | தசை இறுக்கம் | | | | |
| 24. | ஒழுங்கற்ற தினசரி இயக்கம் | | | | |

**பிரிவு:5 உணரப்பட்ட மனஅழுத்தத்திற்கான அளவுகோல்**

உங்களுக்கு சரி என்று தோன்றும் பதிலை டிக் (✓) செய்யவும்

| வ எண் | பதில் | எப்பொழுதும் இல்லை | சில சமயங்-களில் | எப்பொழு-தாவது | எப்பொழுதும் உள்ளது |
|---|---|---|---|---|---|
| **உணர்வு-1 கவலைகள்** | | | | | |
| 1. | எதிர்காலத்தை குறித்து பயம் உண்டு | | | | |

| வ எண் | பதில் | எப்பொழுதும் இல்லை | சில சமயங்-களில் | எப்பொழு-தாவது | எப்பொழுதும் உள்ளது |
|---|---|---|---|---|---|
| 2. | அதிக எண்ணிக்கையிலான கவலைகள் உண்டு | | | | |
| 3. | உங்களுடைய பிரச்சனை உங்களை மேற்கொள்ளுகிறது. | | | | |
| 4. | உங்களால் இலக்கை அடைய முடியாது என்று பயப்படுகிறீர்கள். | | | | |
| 5. | நீங்கள் ஏமாற்றப்படுவதாக உணர்கிறீர்கள் | | | | |
| **உணர்வு-2 பதட்டநிலை** | | | | | |
| 6. | நீங்கள் பதற்றமாக உணர்கிறீர்கள் | | | | |
| 7. | நீங்கள் ஓய்வெடுக்க விரும்புகிறீர்கள் | | | | |
| 8. | நீங்கள் மனரீதியாக மிகுந்த களைப்பாக உணர்கிறீர்கள். | | | | |
| 9. | ஓய்வெடுப்பதில் உங்களுக்கு இடையூறு உள்ளது | | | | |
| 10. | நீங்கள் அமைதியாக உணர்கிறீர்கள் | | | | |

| வ எண் | பதில் | எப்பொழுதும் இல்லை | சில சமயங்-களில் | எப்பொழு-தாவது | எப்பொழுதும் உள்ளது |
|---|---|---|---|---|---|
| **உணர்வு-3 சந்தோஷம்** | | | | | |
| 11. | நீங்கள், விரும்பிய காரியங்களைச் செய்கிறோம் என்று உணர்கிறீர்கள். | | | | |
| 12. | நீங்கள் சந்தோஷமாயிருகிறீர்கள் | | | | |
| 13. | இலகுவான உள்ளம் உடையவராயிருக்கிறீர்கள் | | | | |
| 14. | நீங்கள் முழுத் திறனை பெற்றுள்ளீர்கள் | | | | |
| 15. | நீங்கள் பாதுகாப்பாக இருப்பதாக உணர்கிறீர்கள். | | | | |
| **உணர்வு-4 தேவைகள்** | | | | | |
| 16. | நீங்கள் செய்ய வேண்டிய காரியங்கள் அதிகம் உள்ளது | | | | |
| 17. | உங்களுக்கு போதுமான நேரம் உள்ளது | | | | |
| 18. | செய்ய வேண்டிய காரியங்களைக் குறித்து மன அழுத்தம் உள்ளதாக உணர்கிறீர்கள் | | | | |

| வ எண் | பதில் | எப்பொழுதும் இல்லை | சில சமயங்-களில் | எப்பொழு-தாவது | எப்பொழுதும் உள்ளது |
|---|---|---|---|---|---|
| 19. | நீங்கள் எந்தக் காரியத்திற்கும் அவசரப்படுவதாக உணர்கிறீர்கள். | | | | |
| 20. | உங்கள் மேல் அதிக தேவைகள் திணிக்கப்பட்டிருப்பதாக உணர்கிறீர்கள். | | | | |

**பிரிவு-6 சுய மதிப்பாய்வு கேள்வித்தாள்-1**

உங்களுக்கு சரி என்று தோன்றும் பதிலை டிக் ( ✓ ) செய்யவும்:

| வ எண் | அறிக்கைகள் | எப்பொழுதும் இல்லை | சில நேரங்களில் | பல நேரங்களில் | எப்பொழுதும் உண்டு |
|---|---|---|---|---|---|
| 1. | நான் மன அமைதியுடன் இருக்கிறேன் | | | | |
| 2. | நான் பாதுகாப்போடு இருக்கிறேன் | | | | |
| 3. | நான் விறைப்பு நிலையில் இருக்கிறேன். | | | | |
| 4. | நான் சோர்வுற்ற நிலையில் இருக்கிறேன் | | | | |
| 5. | நான் நிம்மதியாக இருக்கிறேன் | | | | |
| 6. | நான் நிலைகுலைந்து இருக்கிறேன் | | | | |
| 7. | நான் வரபோகும் துரதிஷ்டத்திற்காக இப்பொழுதே கவலைப்பட்டுக் கொண்டிருகிறேன் | | | | |

| வ எண் | அறிக்கைகள் | எப்பொழுதும் இல்லை | சில நேரங்களில் | பல நேரங்களில் | எப்பொழுதும் உண்டு |
|---|---|---|---|---|---|
| 8 | நான் மகிழ்ச்சியாக இருப்பதாக உணர்கிறேன் | | | | |
| 9. | நான் பயமாக இருக்கிறேன் | | | | |
| 10. | நான் சௌகரியமாக இருக்கிறேன் | | | | |
| 11. | நான் தன்னம்பிக்கை--யியோடு இருக்கிறேன் | | | | |
| 12. | நான் படபடப்பாக இருக்கிறேன் | | | | |
| 13. | நான் அலைபாயும் மனநிலையில் இருப்பதாக உணர்கிறேன் | | | | |
| 14. | நான் எந்த தீர்மானம் எடுக்க இயலாத நிலையில் இருப்பதாக உணர்கிறேன் | | | | |
| 15. | நான் தளர்வுற்ற நிலையில் இருப்பதாக உணர்கிறேன் | | | | |
| 16. | நான் திருப்தியாக இருப்பதாக உணர்கிறேன் | | | | |
| 17. | நான் கவலையாக இருக்கிறேன் | | | | |

| வ எண் | அறிக்கைகள் | எப்பொழுதும் இல்லை | சில நேரங் களில் | பல நேரங்க ளில் | எப்பொழுதும் உண்டு |
|---|---|---|---|---|---|
| 18. | நான் குழப்பமாக இருப்பதாக உணர்கிறேன் | | | | |
| 19. | நான் சமநிலையில் இருப்பதாக உணர்கிறேன் | | | | |
| 20. | நான் இனிமையான மனநிலையில் இருப்பதாக உணர்கிறேன் | | | | |

**சுய மதிப்பாய்வு கேள்வித்தாள்-2**

உங்களுக்கு சரி என்று தோன்றும் பதிலை டிக் ( ✓) செய்யவும்:

| வ எண் | அறிக்கைகள் | எப்பொழுதும் இல்லை | சில நேரங் களில் | பல நேரங்க ளில் | எப்பொழுதும் உண்டு |
|---|---|---|---|---|---|
| 21. | நான் இனிமையான மனநிலையில் இருக்கிறேன் | | | | |
| 22. | நான் படபடப்பாகவும் களைப்பாகவும் இருக்கிறேன் | | | | |
| 23. | எனக்குள் திருப்தியாக இருக்கிறேன் | | | | |
| 24. | மற்றவர்கள் சந்தோஷமாக இருக்கும் அளவே நானும் சந்தோஷமாக இருக்க வேண்டும் என்பது என் ஆசை | | | | |

| வ எண் | அறிக்கைகள் | எப்பொழுதும் இல்லை | சில நேரங்களில் | பல நேரங்களில் | எப்பொழுதும் உண்டு |
|---|---|---|---|---|---|
| 25. | நான் தோல்வி அடைவதாக உணர்கிறேன் | | | | |
| 26. | நான் ஓய்வாக இருப்பதாக உணர்கிறேன் | | | | |
| 27. | நான் அமைதியுடனும் கிளர்ச்சியற்றும் கட்டுக்கோப்புடனும் இருக்கிறேன் | | | | |
| 28. | என்னுடைய கஷ்டங்கள் அதிகரித்துக் கொண்--டிருப்பதால் நான் அவற்றைத் தீர்க்க முடியாமல் இருக்கிறேன் | | | | |
| 29. | நான் உண்மையாகவே முக்கியமல்லாத சிலவற்றைப் பற்றி மிகவும் அதிகமாகக் கவலைப்படுகிறேன் | | | | |
| 30. | நான் மகிழச்சியாக இருக்கிறேன் | | | | |
| 31. | நான் மனசுக்கு தொந்தரவு கொடுக்கும் எண்ணங்களுடன் இருக்கிறேன் | | | | |

| வ எண் | அறிக்கைகள் | எப்பொழுதும் இல்லை | சில நேரங்களில் | பல நேரங்களில் | எப்பொழுதும் உண்டு |
|---|---|---|---|---|---|
| 32. | எனக்கு தன்னம்பிக்கை இல்லை | | | | |
| 33. | நான் பாதுகாப்புணர்ச்சியோடு இருப்பதாக உணர்கிறேன் | | | | |
| 34. | என்னால் தீர்மானங்களை எளிதில் எடுக்க முடிகிறது | | | | |
| 35. | நான் முழுமையாக இல்லாததாக உணர்கிறேன் | | | | |
| 36. | நான் திருப்தியாக இருக்கிறேன் | | | | |
| 37. | என் மனதில் சில முக்கியமில்லாத சிந்தனைகள் ஓடி என்னை வருத்துகிறது | | | | |
| 38. | ஏமாற்றங்கள் எனது மனதிலிருந்து தள்ள முடியாத அளவுக்கு அவற்றைப் பெறிதாக எடுத்துக் கொள்கிறேன் | | | | |
| 39. | நான் சமநிலையான பெண் | | | | |

| வ எண் | அறிக்கைகள் | எப்பொழுதும் இல்லை | சில நேரங்களில் | பல நேரங்களில் | எப்பொழுதும் உண்டு |
|---|---|---|---|---|---|
| 40. | சமீபித்திய எனது விருப்பங்களையும் தொடர்புகளையும் நினைத்துப்பார்க்கும் போது நான் ஒருவித விறைப்பு நிலையையோ அல்லது குழப்ப நிலையையோ அடைகிறேன். | | | | |

# APPENDIX V

## TRAINING CERTIFICATE OF MINDFULNESS THERAPHY

**Dr V Chandramohan**
*Clinical Psychologist*
*Behaviour Therapist*
*Scientist*
*Faculty, Rajiv Gandhi University of Health and Sciences*

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**Department of Psychiatry**
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drvchandramohan1968@yahoo.co.in

**CERTIFICATE** 12 may 2013

This is to certify that **Ms SHERINE MANI MERLIN**, II Year M.Sc., (Nursing), studying at College of Nursing, Sri Ramakrishna Institute of Paramedical Sciences, Coimbatore, has undergone two days intensive training program on "**Relaxation Techniques and Guided Mental Imagery"**, under my supervision, at Psychosocial Rehabilitation Centre, Coimbatore, on 11-12 May 2013.

She is a **Good Behaviour Therapist**, managing the anxiety and stresses of the individuals effectively.

She is an intelligent and industrious student. She bears Good Character and conduct. I wish success in all her endeavours.

(Dr V Chandramohan)
Associate Professor of Psychology

Dr. V. Chandramohan, M.A., M.Phil., Ph.D.,
Clinical Psychologist
Department of Psychiatry
Command Hospital Air Force
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Dr. V. CHANDRAMOHAN
CLINICAL PSYCHOLOGIST
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# APPENDIX VI

**CERTIFICARE OF TAMIL EDITING TO WHOMSOEVER IT MAY CONSERN**

This is to certify that the **PERCEIVED STRESS SCALE** was translated to tamil, for the dissertation **"EFFECT OF MINDFULNESS THERAPY ON STRESS AMONG ANTENATAL MOTHERS AT SRI RAMAKRISHNA HOSPITAL, COIMBATORE "** done by S.SHERINE MANI MERLIN, has been edited for tamil language for appropriateness.

Name : Dr. K Bagyam

Designation : HOD, Associate Professor in Tamil

Name of the institution : Sri Ramakrishna Institute of Arts and Science For Women

Signature :

14/5/2013

துறைத்தலைவர்
தமிழ்த்துறை
ஸ்ரீ இராமகிருஷ்ணா
மகளிர் கலை அறிவியல் கல்லூரி
கோயம்புத்தூர் - 641 044.

# APPENDIX VII

## CERTIFICATE OF ENGLISH EDITING

TO WHOMEVER IT MAY CONCERN

This is to certify that the dissertation "EFFECT OF MINDFULNESS THERAPY ON STRESS AND ANXIETY AMONG ANTENATAL MOTHERS AT SRI RAMAKRISHNA HOSPITAL, COIMBATORE" done by S. SHERINE MANI MERLIN, II year M.Sc. Nursing, College of Nursing, Sri Ramakrishna Institute of Paramedical Sciences, Coimbatore has been edited for English language appropriateness.

Name : MRS. DAISY PAUL

Designation : HEADMISTRESS

Name of the institution : SPIC NAGAR HIGHER SECONDARY SCHOOL, TUTICORIN.

Signature : Daisy Paul 29/12/13

DAISY PAUL
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# ANNEXURE - I

**'t' test for Dependent samples**

To test the hypothesis, 't' test was applied to find out the significant difference between the same group before and after the Mindfulness therapy.

$$t = \frac{\bar{d}}{\frac{SD}{\sqrt{n}}}$$

$$SD = \sqrt{\frac{\sum \left(d - \bar{d}\right)^2}{n}}$$

$\bar{d}$ = Mean of difference between pre-test and post- test score

SD = Standard deviation of the pre-test and post- test score

n = Number of samples

# ANNEXURE – II

## KARL PEARSON'S COEFFICIENT OF CORRELATION

Karl Pearson's Coefficient of Correlation was calculated to find out the influence of independent variable on dependent variable. Influence of Selected variables on level of stress and anxiety among antenatal mothers was assessed inorder to find the significance of relationship between the variables.

$$r = \frac{\frac{\sum xy}{n} - \bar{x}\bar{y}}{SD_x . SD_y}$$

$\bar{x}$ = Mean of independent variable score

$\bar{y}$ = Mean of dependent variable score

$\frac{\sum xy}{n}$ = Average of independent variable and dependent variable score

$SD_x$ = Standard deviation of independent score

$SD_y$ = Standard deviation of dependent score